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**FM 4-02.18** (FM 8-10-18)

# **VETERINARY SERVICE**

## **TACTICS, TECHNIQUES, AND PROCEDURES**

**DECEMBER 2004**

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## VETERINARY SERVICE TACTICS, TECHNIQUES, AND PROCEDURES

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## PREFACE

This publication outlines the functions and operations of each veterinary element within an area of operations (AO). It provides tactics, techniques, and procedures for veterinary support. The information provided in this publication will assist veterinary commanders and staffs to operate efficiently in the corps and echelons above corps (EAC) arenas. It may be used by medical planners to supplement Field Manual (FM) 4-02, FM 8-42, and FM 8-55. The recently approved Force Design Update and approved table(s) of organization and equipment (TOEs) provide two newly designed veterinary units. The medical detachment, veterinary service (MDVS) has subcomponents that include a headquarters section, a food procurement team, and veterinary service support teams (5). Each of these subcomponents has their own A-Series TOE/Standard Requirement Code (SRC) as well as their overall unit TOE and SRC. This means that planners can put any of the subcomponents into a Time-Phased Force Deployment List (TPFDL) or an operation that they feel is needed, to include the whole unit if desired. The medical detachment, veterinary medicine (MDVM) was designed to deploy as one unit. This manual also provides doctrine for veterinary units organized under the L-Series TOEs.

The organizational structures presented in this publication reflect those established in the current A-Series and L-Series TOEs effective as of this publication date. The staffing and organization structures presented in this FM reflect those established in the base TOE and are current as of this publication's print date. Such staffing is subject to change in order to comply with manpower requirements criteria outlined in Army Regulation (AR) 71-32. Those requirements criteria are also subject to change if the modification table(s) of organization and equipment (MTOE) is significantly altered. The most current tables are available either by mailing a request to: Authorizations Documentation Directorate, 9900 Belvoir Road, ATTN: MOFI-FMA, Fort Belvoir, Virginia 22060-2287; or by contacting that office at the Website: <https://webtaads.belvoir.army.mil/usafmsa>. An account must be established before you will be permitted to log on.

This manual is in consonance with FM 7-15, Army Universal Task List (AUTL) and supports the Army Tactical Task (ART) 6.5.4.4, Provide Veterinary Service. Commanders should use the AUTL as a cross reference for tactical tasks. The AUTL provides a standard doctrinal foundation and catalogue of the Army's tactical collective tasks.

The proponent of this publication is the United States (US) Army Medical Department Center and School (AMEDDC&S). Send comments and recommendations on Department of the Army (DA) Form 2028, Recommended Changes to Publications and Blank Forms, or in a letter format directly to the **Commander, AMEDDC&S, ATTN: MCCS-FCD-L, 1400 East Grayson Street, Fort Sam Houston, Texas 78234-5052.**

Unless this publication states otherwise, masculine nouns and pronouns do not refer exclusively to men.

Use of trade or brand names in this publication is for illustrative purposes only and does not imply endorsement by the Department of Defense (DOD).

## CHAPTER 1

**VETERINARY SUPPORT IN MILITARY OPERATIONS****Section I. MISSION****1-1. Veterinary Mission Statement**

*a.* The veterinary mission is to execute veterinary service support essential for force health protection (FHP) and to project and sustain a healthy and medically protected force; train, equip, and deploy the veterinary force; and promote the health of the military community.

*b.* This is accomplished by the following functions:

(1) *Food safety, food security, and quality assurance.* Food safety, food security, and quality assurance during all stages of procurement, storage, and distribution require that veterinary personnel—

- Ensure food safety, wholesomeness, and related quality assurance standards.
- Perform surveillance inspections of operational rations.
- Perform sanitation audits of commercial facilities that produce such items as dairy products, seafood (fish), red meats, poultry, eggs, pork, baked goods, fresh fruits and vegetables, bottled water, and block or packaged ice. See AR 40-657 and the most current version of Military Standard (MIL-STD) 3006A for definitive information on sanitation audits of commercial food establishments.
- Perform surveillance inspections of all Service-owned subsistence received, stored, issued, sold, or shipped from/to military installations (including those items received from depots and supply points). See AR 40-656 for definitive information on veterinary surveillance inspections.
- Conduct basic food screening and microbiological laboratory procedures to ensure adherence to food safety standards and to identify potential foodborne pathogens.
- Advise theater logistics units (corps support battalion [CSB], main support battalion [MSB], division support battalion [DSB], forward support battalion [FSB], and brigade support battalion [BSB]), ration breakdown point (RBP), and dining facilities (DFACs) on storing subsistence to minimize the threat of chemical, biological, radiological, and nuclear (CBRN) contamination.
- Inspect, monitor, and submit laboratory samples of subsistence or food-producing animals that are contaminated or suspected of being contaminated by CBRN agents.
- Provide units with guidance and instructions for the proper handling or decontamination of subsistence. See Chapter 5, Section II of this manual and Appendix J of FM 4-02.7 for definitive information.
- Protect the financial interests of the government as it affects the use and disposition of wholesome, government-owned subsistence.

- Participate in civic, humanitarian, or disaster relief actions as directed.
- Provide food surveillance inspections of DFACs for security and storage of food products.

(2) *Veterinary medical care.*

- Provide complete veterinary care for all military working dogs (MWDs) in the AO.
- Provide limited veterinary care to other DOD-owned animals and other government-owned animals (GOA) when time and resources permit and to indigenous animals, as directed.

(3) *Veterinary preventive medicine.*

- Support prevention and control programs to protect soldiers from foodborne diseases.
- Evaluate zoonotic disease data collected in the AO and advise PVNTMED elements and higher headquarters on potential hazard(s) to humans.
- Establish animal disease prevention and control programs to protect soldiers and their families and other DOD and Allied personnel from zoonotic diseases.
- Assess the presence of animal diseases that may impact the continental US (CONUS) agriculture system if contaminated equipment or personnel are allowed to redeploy.
- Perform investigations of unexplained animal deaths to include livestock and wildlife.

**1-2. Veterinary Services and Support**

a. The US Army Veterinary Corps under the direction of Secretary of the Army and supervision of The Surgeon General of the Army is the DOD Executive Agent for veterinary service for all the Services (US Army, US Navy, US Marine Corps, US Air Force, and the US Coast Guard). Veterinary services are also provided upon request and subject to availability of resources for GOA of other federal agencies. In some instances animal care is provided to allies/coalition partners and/or host-nation (HN) agencies. The US agencies that may be provided this support include:

- Department of Agriculture.
- Department of Commerce.
- Department of Transportation.
- Department of Homeland Security (Transportation Security Agency, US Coast Guard, US Customs, US Border Patrol, and US Secret Service).

- Department of Justice (Drug Enforcement Agency).
- Department of State.
- Federal Bureau of Investigation.
- Central Intelligence Agency.

*b.* As the mission requires, veterinary personnel may be attached to US military command and control (C2) units or be under operational control (OPCON) to civilian management elements but remain under military command to provide veterinary support in stability operations and support operations.

## **Section II. VETERINARY OPERATIONS**

### **1-3. Veterinary Concept of Operations**

Veterinary services function in three broad categories. These categories include:

- Food safety, food security, and quality assurance.
- Veterinary medical care.
- Veterinary preventive medicine.

*a. Food Safety, Food Security, and Quality Assurance Services.* Food safety includes hygiene and sanitation, security, and quality assurance services as a primary component of preventing disease and nonbattle injury (DNBI) within an AO.

*b. Veterinary Medical Care.* Level I and II veterinary care for MWDs includes emergency treatment, stabilization, and evacuation. There is no Level IV veterinary care and Level V veterinary care is found in CONUS at the DOD MWD Center. Level III veterinary medical and animal hospital care is provided by the MDVM. Level III veterinary hospital care includes comprehensive veterinary medical and surgical animal hospital care. The levels of veterinary medical care and the number of veterinary detachments deployed to an AO are determined by mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC). At all levels of veterinary medical care, surveillance, prevention, and control programs for diseases common to both animal and man are implemented. The senior veterinary staff officer provides advice and guidance on these threats to the medical commanders and command surgeons.

*c. Veterinary Preventive Medicine.* See 1-1b(3) above.

**NOTE**

Veterinary personnel will often become involved in customs issues pertaining to the movement of personnel, equipment, and rolling stock transitioning between countries or returning to home stations located in allied countries and/or CONUS. The senior staff veterinarian works with preventive medicine units, customs, and coordinates with US Department of Agriculture (USDA), Animal and Plant Health Inspection Services (APHIS), and the Department of Homeland Security's Agriculture, Quarantine, and Inspection (AQI) Force personnel.

d. *Employment and Deployment.* Veterinary units are designed with the flexibility and mobility to deploy numerous teams or individuals to accomplish diverse and decentralized food inspection support and animal veterinary care to meet requirements of a larger support operation. The size of the supporting veterinary unit is dependent upon the total number of DOD military personnel and MWDs and other GOA being supported (see Appendix A). Veterinary units may serve as general support to Army Service Component Command (ASCC), Theater Support Command (TSC), and corps level (corps support groups [CSGs] rear and forward) Class I logistics units. Veterinary teams may be OPCON to support battalions of divisions, and brigade combat teams to provide forward food safety support. Veterinary teams/personnel will coordinate and report their mission support activities with the division, brigade, or support battalion medical staff elements. In some situations this report may be submitted through the unit of attachment (division support medical company, forward support medical company, or brigade support medical company) with one of the above medical staff elements.

**1-4. Veterinary Personnel and the Geneva Conventions**

Medical and veterinary personnel are separate and exclusive groupings in the Geneva Conventions. The presence of veterinary personnel in a medical unit is not enough to entitle them to special protection and privileges under the Geneva Conventions. Nor does their presence alter the special protection afforded other members of the medical unit. Veterinary personnel will be treated as combatants if captured or interned. An exception is made when veterinary personnel are assigned to a medical unit and exclusively perform the full-time duty of transporting the sick and wounded, administering the medical care of patients, and saving human lives, or perform full-time staff duties concerning these tasks. In these special cases, they may wear the brassard, carry a Geneva Conventions Identity Card (Department of Defense [DD] Form 1934), and be entitled to protection under the Geneva Conventions.

## CHAPTER 2

**VETERINARY SUPPORT STRUCTURE****Section I. VETERINARY UNITS****2-1. Medical Detachment, Veterinary Service, TOE 08440A000**

*a. Mission.* This unit provides veterinary services to all branches of the Services throughout the AO in the areas of approving commercial food sources; food safety/security/sanitation; food service sanitation; MWDs and GOAs care; veterinary preventive medicine directed towards endemic zoonotic diseases and foreign animal disease surveillance/mitigation; and humanitarian civic action programs in support of all branches of the Services throughout the AO. For Medical Force 2000, L-Series TOE veterinary units, see Appendix B.

*b. Assignment.* This unit is normally assigned to a medical command (MEDCOM), TOE 08411A000 and/or 08611A000 and further attached to a medical brigade (MEDBDE), area support medical battalion (ASMB), joint/combined task force or functionally aligned to a security or logistics unit. In the event that there are no AMEDD units in the AO, the MDVS may be assigned under a task force surgeon to another Service medical organization. In the absence of a medical unit, the MDVS may be assigned to a functionally aligned security or logistics unit.

*c. Employment.* The MDVS may be deployed to provide veterinary service in an AO. The MDVS provides food safety, security, and quality assurance of inspections audits as a primary means for preventing foodborne illnesses in US forces and Levels I and II veterinary care to MWDs. The headquarters section, MDVS, TOE 08548AA00, veterinary service support teams (VSST), MDVS, TOE 08548AB00, and the veterinary food procurement team (VFPT), TOE 08548AC00 form the MDVS, TOE 08440A000. The unit deploys by team. The veterinary teams may be geographically dispersed to align with their primary customers or those units/activities (such as aerial port of debarkation/seaports of debarkation [APOD/SPOD] or corps or theater level Class I points) requiring support. They can be task-organized across team lines or subdivided to meet a variety of functional scenarios within the stated mission. The headquarters section may be located in the geographical center of operations or near other medical units with C2 functions. The unit functions well in conjunction with preventive medicine units. Each team can subdivide into two sub-teams and often work forward of the brigade rear boundary. Veterinary service teams from the MDVS may be task-organized within its capabilities for smaller scale operations. The following veterinary services are provided by the MDVS—

- Perform sanitation audits of commercial facilities that produce such items as dairy products, seafood (fish), red meats, poultry, eggs, pork, baked goods, fresh fruits and vegetables, bottled water and packaged ice. See AR 40-657 and the latest version of MIL-STD 3006A for definitive information on sanitation audits of commercial food establishments.
- Perform surveillance inspections of all Service-owned subsistence received, stored, issued, sold, or shipped from/to military installations (including those items received from depots and supply points). See AR 40-656 for definitive information on veterinary surveillance inspections.
- Conduct CBRN surveillance of potentially contaminated subsistence, as directed.



- Provide recommendations to commanders on the disposition of CBRN-contaminated subsistence.
- Provide receipt, in storage, and other inspection of operational rations and other government-owned or government-contracted subsistence intended for consumption by DOD personnel.
- Provide presumptive laboratory testing (screening and surveillance) for microbes, chemical contaminants, pesticides, toxins and other hidden contaminants (radioactive isotopes, polychlorinated biphenyls [PCBs], and petroleum byproducts) in the food supply.
- Provide assessment and guidance on temperature-abused foods, see Defense Logistics Agency Manual (DLAM) 4145.12.
- Conduct initial and periodic inspections of US Government food storage facilities.
- Prepare, publish, and distribute an annex to the *Worldwide Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement* in the AO, as directed. The ASCC veterinarian normally develops the approved source list that is approved by the ASCC surgeon.
- Assist with a food security vulnerability risk assessment on the food distribution system.
- Establish prevention and control programs to protect soldiers from zoonotic disease and foodborne illness.
- Provide/augment disease prevention and control activities to indigenous animals as directed.
- Participate in civic action, humanitarian, or disaster relief actions as directed.
- Monitor and evaluate food safety data to include those foods and food-producing animals exposed to CBRN agents or toxic industrial materials.
- Investigations of unexplained animal deaths to include livestock and wildlife.
- Conduct animal disease prevention and control programs.
- Assess the presence of animal disease in the AO that may impact the CONUS agriculture system if personnel and equipment were allow to redeploy.

d. *Capabilities.* The MDVS possesses the capabilities that allowed the detachment to provide:

- (1) Food inspection.

- Conduct audits of commercial food establishments to identify approved food sources for Class A rations.

- Conduct sanitation inspections audit of food processing facility for either commercial or military food production/processing and storage facilities; including block and packaged ice, bottled water, baked goods, fresh fruits and vegetables, seafood, eggs, poultry, pork, red meat, and dairy plants.

- Conduct contingency CBRN surveillance of potentially contaminated subsistence, as directed/required, and provide guidance on the disposition of CBRN-contaminated subsistence.

- Provide CBRN decontamination instructions for subsistence.

- Conduct surveillance receipt and inspection at issue of operational or captured rations and other government-owned subsistence intended for consumption or use by DOD personnel.

- Provide basic food microbiological and chemical surveillance of military food supply. Perform rapid, presumptive laboratory testing (screening and surveillance) for microbial contaminants, pesticides, and toxins and other hidden contaminants (radioactive isotopes, PCBs, petroleum by-products) in the food supply.

- Provide assessment and guidance on temperature-abused foods.

- Conduct periodic inspections of government food storage facilities.

- Use one team to provide support for up to 10,000 personnel.

- Deploy functional elements of its modularly designed support team which are capable of providing veterinary support functions in two different geographical locations simultaneously.

- Participate in humanitarian civic action or disaster relief actions as directed.

- Provide food surveillance inspections of DFACs for security and storage of food products.

- Assist in foodborne illness investigations.

(2) Animal medicine.

- Provides Level I and II care for up to 50 MWD. Each VSST is capable of supporting 10 MWDs. They coordinate MWD evacuation to the Level III animal care hospital facility operated by the MDVM and beyond to CONUS facilities.

- Provides limited Level I veterinary medical care for other GOAs.
- Provides CBRN decontamination instructions for MWDs and other GOAs.

(3) Veterinary preventive medicine.

- Monitors and evaluate endemic zoonotic diseases of military importance and diseases common to animals and humans; advise higher command as appropriate.
- Investigates unexplained animal deaths to include livestock and wildlife.
- Monitors and evaluates food safety data to include those foods and food-producing animals exposed to CBRN agents or toxic industrial materials.
- Conducts animal disease prevention and control programs.

(4) General.

- Command and control for 3 to 6 veterinary subordinate units (teams/ detachments in the assigned AO).
- Veterinary support to humanitarian civic action programs.
- Coordination with supported logistics organizations for food safety, food security support and with supported organizations with GOA requiring veterinary support.
- Deploys teams to 6 to 12 different locations within a 70-kilometer radius to conduct operations. Each VSST or VFPT can further divide into two smaller teams.

*e. Mobility.* The headquarters section and each of the 6 teams is 100% mobile, capable of transporting all of its equipment, supplies, and personnel in a single lift using its authorized organic vehicles.

*f. Dependency.* This unit is dependent on:

- Appropriate elements of the corps or ASCC for finance, personnel, religious, legal, health service support (HSS), bath, laundry, transportation services when single lift requirements exceed unit capability, vehicle recovery operations and administrative services.
- Appropriate elements of the headquarters and headquarters company (HHC), MEDBDE, TOE 08422A100, 08422A200, 08422L100 and/or 08422L200 for field feeding.
- Appropriate medical logistic (MEDLOG) unit for medical maintenance support and Class VIII supply.
- Navy, Air Force, Marine Corps, Coast Guard, Public Health Service or other federal agency base operations support when attached to these units.

*g. Concept of Operations.*

(1) Headquarters, medical detachment veterinary service (TOE 08548AA00) functions. This section provides C2, administration, supply, and operational planning for its subordinate veterinary teams. This section may provide C2 of all veterinary units in the Theater of Operations (TO). This unit is usually employed once there are three or more veterinary teams or a Level III veterinary hospital facility operated by the MDVM in the AO. It oversees and implements required veterinary policies. It coordinates with logistical officers of other uniformed (US and allied) Services and other federal agencies on veterinary support missions. It coordinates with HN public health officials. It monitors and evaluates data on environmental, enzootic, zoonotic, and infectious diseases, food exposed to CBRN agents and food quality, safety, and security assurance and advises higher commanders on prevention and control of these hazards. It coordinates with DOD units for care of MWDs, and with allied and other federal agencies resourced with other GOA for their limited medical care. The organizational structure of the MDVS is provided in Figure 2-1.

(a) Veterinary food procurement team (TOE 08548AC00) functions. The mobile, veterinary food inspection team can subdivide into two smaller teams, capable of operating in different locations for short periods of time. The team provides highly technical food inspection program support, monitoring all government food storage facilities, commercial food suppliers, and in-plant audits and monitoring of commercial food producing facilities. It provides field and in-plant microbiological testing for quality assurance/food safety assessments of fresh fruits and vegetables, red meats, pork, poultry, fish, fresh eggs, bakeries, bottled water, block or packaged ice, and fresh dairy products, procured or stored in the AO. The VFPT coordinates with supported logistical organizations of all services and other supported agencies (allies, HN, and US Government) for food procurement and storage of subsistence. The VFPT also assists in the evaluation of environmental, zoonotic, and foodborne disease and food quality assurance data to include foods exposed to CBRN agents. Notifying higher headquarters of those threats posing potential health hazards. The VFPT provides veterinary and technical in-plant audits and monitors commercial food production/processing/storage facilities. It inspects all government food storage facilities in the AO for security, sanitation, and quality assurance. The VFPT provides field and in-house microbiological testing for quality assurance and food safety assessments. It works with other agencies (HN, allied, and US Government) for the procurement and storage of subsistence.

(b) Veterinary service support team (TOE 08548AB00) functions. There are five VSSTs in the MDVS. Each of these highly flexible, mobile veterinary teams can subdivide into two smaller teams capable of operating independently for short periods. Each team can provide veterinary support functions in two separate geographical locations simultaneously by deploying functional elements of its modularly designed team. The VSST can provide veterinary and technical in-plant audits and monitors commercial food production/processing/storage facilities. It inspects all government food storage facilities in the AO for security, sanitation, and quality assurance. It provides audits of all food/rations at time of receipt from both government-owned and procurement organizations, as well as government food storage facilities. The VSST conducts sanitation audits for commercial food sources in support of procurement organizations. It provides field, in-plant microbiological, and chemical screening tests for food safety and quality assurance for products procured or stored in the AO. The team conducts surveillance inspections of all foods at time of issue and monitors and evaluates environmental, zoonotic disease and food safety data to include food service sanitation and foods exposed to CBRN agents. The MDVS can also provides Level I and Level II veterinary medical care to a DOD military units with MWDs, and limited Level I and II

veterinary medical care to other GOAs and veterinary support for civic action programs. The MDVS may attach one of its enlisted animal health care specialists directly to military police (MP/United States Air Force [USAF] Security Forces (SF) unit to provide on-site health care to MWDs in the AO. Veterinary support teams or personnel from the MDVS are located initially at ports, distribution centers, and supply depots such as the general support units (GSUs) located along main supply routes (MSRs). This placement allows the MDVS to deploy its veterinary service support teams forward to support corps assets in the division rear area. For example, a veterinary support team may support the CSG (forward) as it is supplying Class I to the division MSB/DSB.

(2) Early entry veterinary elements. A veterinary detachment or its teams may be task-organized and be the first veterinary asset deployed into an AO, arriving with the initial task force. The VSSTs of the MDVS provide basic food microbiological surveillance and when directed, CBRN surveillance of potentially contaminated subsistence. Also, VSSTs provide recommendations regarding the disposition of CBRN-contaminated subsistence. They inspect operational rations to ensure wholesomeness, nutritional, and safety standards are maintained. They perform CBRN subsistence surveillance and ensure that any locally procured subsistence meets appropriate regulations, guidelines, and are procured in accordance with the HSS plan.

(3) Maturing AO. As the AO matures, additional veterinary units will be deployed to support the increased food mission.

(4) Corps veterinary support. In the corps AO, C2 of all veterinary assets is provided by the MEDCOM, MEDBDE, or an ASMB. The MEDCOM or MEDBDE staff veterinarians provide technical guidance and develop AO policy in accordance with the corps surgeon's guidance.

*h. Basis of Allocation.*

(1) The basis of allocation (BOA) for the MDVS is one per every 60,000 personnel supported; one per 50 MWDs and other GOAs supported.

(2) The BOA for the headquarters, MDVS is one per three to six subordinate teams.

(3) The BOA for the VSST, MDVS is one per 10,000 personnel supported if C2 is provided by the Headquarters, MDVS. One per 7000 personnel supported if deployed individually, without external veterinary C2. One per 10 MWDs and other GOAs for Level I and II care. (Level III medical and animal hospital care requires a MDVM).

(4) The BOA for the VFPT, MDVS is one per 60,000 personnel supported.

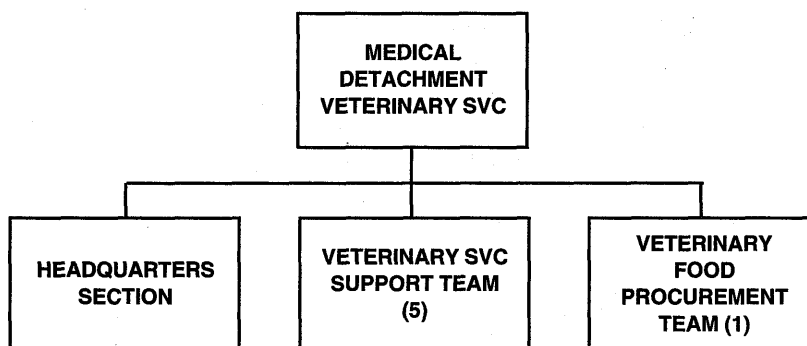


Figure 2-1. Medical detachment, veterinary service.

## 2-2. Medical Detachment, Veterinary Medicine, TOE 08423A000

*a. Mission.* This unit provides Level III comprehensive veterinary medical care, surgical care, and hospitalization to MWDs and limited Level III care to other GOAs within the AO; veterinary support for civic action programs; and conducts animal disease prevention and control programs in support of the overall HSS system throughout the AO to include care for indigenous animals when authorized.

*b. Assignment.* This unit is assigned to a MEDCOM, TOE 08411A000 and/or 08611A000. The MDVM may be placed under C2 of the MDVS, TOE 08440A000 and/or 08413L000. In the event that there are no AMEDD units in the AO, the MDVM may be assigned under a joint task force (JTF) surgeon medical unit. In the absence of a medical unit, the MDVM may be assigned to a functionally supported security unit (such as an Air Force Security Forces Squadron).

*c. Employment.* The MDVM, normally establishes a centrally located veterinary hospital in proximity to the animal population supported along normal ground or air medical evacuation routes or other supported units as assigned.

*d. Capabilities.* The MDVM possesses the capabilities that allow the detachment to:

- Provide Level III veterinary medical and surgical care to MWDs and limited care to other GOAs, provides veterinary medical support for stability operations and support operations, and conducts animal disease prevention and control programs.
- Provide medical and surgical care for 50 to 200 MWDs and limited care for other GOAs. Surgical capabilities of this unit is based on 1 operating room (OR) table staffed for 7 OR hours per day for up to 3 or 4 days.
- Provide hospitalization for up to 10 MWD patients providing intermediate-term treatment and holding of MWDs. Animals treated at this facility may be held according to the theater evacuation policies.

- Provide treatment and coordination for evacuation for injured/ill MWDs and limited treatment and evacuation for other GOA from other veterinary service units to include coalition/allied or HN units.

- Provide a mobile element for triage and emergency medical treatment (EMT) capable of immediate deployment to an area of high or potentially high casualties.

- Provide veterinary support to the stability operations and support operations that is capable of providing limited veterinary care for large animals under certain conditions of government interests.

- Provide consultation services for inpatients and outpatients to include unit level supported mascots.

- Provide veterinary medical administrative and logistical services.

e. *Mobility.* The MDVM is 100% mobile, capable of transporting all its equipment, supplies, and personnel in a single lift using its authorized organic vehicles.

f. *Dependency.* This unit is dependent on:

- Appropriate elements of the corps or ASCC for finance, field feeding, religious, unit maintenance, legal, HSS, personnel, and administrative services.

- Appropriate MEDLOG unit for medical maintenance support and Class VIII supply.

- Navy, Air Force, Marine Corps, Coast Guard, Public Health Service, or other federal agency for support when attached to these units.

g. *Concept of Operations.*

(1) Headquarters section functions. This section provides C2, administration, logistics, and operational planning for the detachment in support of medical and surgical care to MWDs and other GOAs. It provides veterinary medical support for stability operations and support operations and conducts animal disease prevention and control programs.

(2) Animal surgical section functions. Provides veterinary surgical care and veterinary medical triage to DOD military units with MWDs and limited support to other GOAs and veterinary support for civic action programs.

(3) Animal treatment section functions. Provides veterinary medical care to DOD military units with MWDs and limited veterinary medical care to other GOAs and veterinary support for civic action programs. The organizational structure of the MDVM is provided in Figure 2-2.

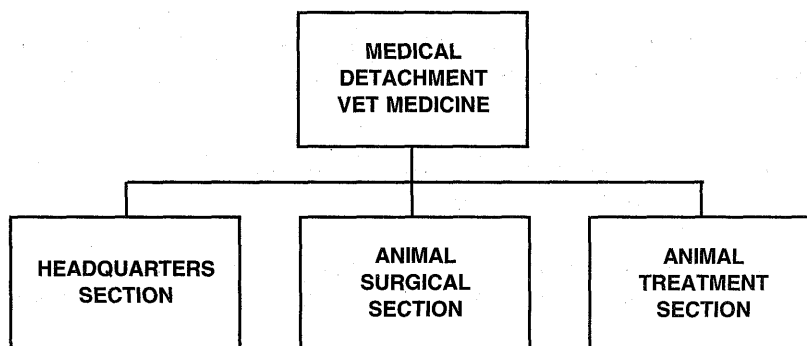


Figure 2-2. Medical detachment, veterinary medicine.

(4) Veterinary hospital facility. The MDVM normally establishes a centrally located veterinary hospital facility in proximity to the MWD population supported along normal ground or air medical evacuation routes or other supported units as assigned. This location facilitates the receipt, treatment, or evacuation of injured MWDs in the AO. The MDVM also has the capability for deploying a team into high animal casualty areas for short periods of time.

*h. Basis of Allocation.* The BOA is one per 50 to 200 MWDs or other authorized GOAs in support of all branches of the military service or other supported units as assigned.

## Section II. VETERINARY STAFF OFFICER POSITIONS

### 2-3. Veterinary Staff Officer Assignments

*a.* Veterinary Corps staff officers are assigned to—

- Unified commands.
- Joint task force.
- Major Army commands (MACOMs).
- Corps MEDCOM and MEDBDE.
- Echelons above corps MEDCOM and MEDBDE.
- Area medical laboratory (AML).
- Special Forces groups (airborne).



- Civil affairs (CA) commands, CA brigades, and CA teams and detachments in the public health, governmental, civic action, and civil assistance areas with direct support (DS) and general support (GS) missions.

b. Veterinary Corps staff officers may also be assigned to joint task forces, United Nation's peacekeeping operations, and emergency management agencies for stability operations and support operations or other C2 organizations. When it is determined a veterinary staff officer is necessary, this officer should be assigned to the task force medical organization and be included in the initial planning and deployment.

#### **2-4. Duties of the Veterinary Staff Officer**

The veterinary staff officer—

- Coordinates veterinary activities with the command surgeon.
- Exercises staff supervision over the veterinary support provided to the command or JTF.
- Prioritizes requirements based on METT-TC and recommends employment of veterinary detachments and team personnel.
- Establishes policies and procedures to—
  - Ensure food safety, security, and quality assurance.
  - Establish an approved food source(s) list according to AR 40-657.
  - Ensure the levels of care and treatment of MWDs meet professional standards.
  - Establish procedures for veterinary care and treatment for other GOA and any authorized privately owned and indigenous animals.
  - Ensure compliance with US food export/import laws and the food laws and regulations of the HN or other foreign countries.
  - Ensure that training priorities for veterinary personnel are accomplished.
  - Formulate and establish food recall procedures for all hazardous subsistence items according to AR 40-660 and Defense Logistics Agency (DLA) Regulation 4155.26.
  - Establish coordination and reporting procedures for food safety issues.
  - Establish priorities for the treatment and care of MWDs and other GOAs and the inspection of subsistence during redeployment operations.

- Establishes and maintains liaison with veterinarians of higher and subordinate headquarters and those of allies, coalition partners, and HN Minister of Agriculture and veterinary services.
- Prepares or consolidates, evaluates, and forwards statistical and historical data and other required veterinary reports.
- Advises the commander on the prevention and control of animal disease and bioterrorism issues related to zoonotic diseases.
- Provides guidance on decontamination procedures for US-owned equipment being retrograded to CONUS and allied nations to prevent transmission of animal diseases.
- Advises the commander and staff on all veterinary matters.
- Conducts staff visits and inspections of veterinary facilities, activities, and units.
- Investigates claims concerning injury or death of indigenous animals resulting from military operations.
- Advises the commander on foreign animal disease that may affect redeployment of military equipment back to the US (coordinates with USDA and APHIS as appropriate).
- Advises the command group on food security issues based on the food risk vulnerability assessments of the food distribution system.

## **2-5. Echelons Above Corps Army Veterinarian**

- a.* In a multicorps operation, the ASCC veterinarian is the senior veterinary staff officer in the TO. This officer provides technical guidance for the establishment of veterinary policies in the TO.
- b.* The ASCC veterinarian—
  - Plans and advises the commander concerning policy for DOD veterinary activities throughout the TO.
  - Establishes policy and provides technical guidance to all veterinary activities assigned or attached to the ASCC.
  - Recommends policy concerning veterinary operations in a multicorps operation to the ASCC surgeon.
  - Coordinates veterinary medical and surgical support as directed.
  - Approves, disapproves, and maintains records pertaining to the sanitary status of establishments that have requested to be or are listed as sources of local food procurement.

- Establishes policies/procedures for emergency medical evacuation (ground/air) of MWDs.
- Coordinates with theater procurement agencies concerning the notification, status, and possible alternate sources of supply of civilian food establishments.
- Publishes an annex to the *Worldwide Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement*. This annex is the approved source listing for the AO.
- Reports to the ASCC surgeon and ASCC Army commander for all of the above listed activities.
- Establishes liaison with theater contracting personnel, TSC commander, theater chemical officer, and theater food service officer.
- Advises the commander on foreign animal disease that will affect redeployment of military equipment back to the United States (coordinates with USDA and APHIS, as appropriate).
- Advises the command group on food security issues based on the food risk vulnerability assessment of the food distribution system.

## **2-6. Corps Medical Command/Brigade Veterinarian**

a. The medical command/brigade veterinarian may serve as the corps veterinarian. He normally provides veterinary technical guidance to all veterinary units in the medical brigade/command AO. This position should be staffed for early deployment into the AO for veterinary asset coordination and allocation.

b. The medical command/brigade veterinarian is the senior veterinary advisor to the corps medical command/brigade commanders.

c. The corps medical command/brigade veterinarian keeps the appropriate units and commanders informed on all veterinary activities. The corps MEDCOM veterinarian assumes all the responsibilities of the ASCC veterinarian when EAC units are not deployed within an AO. If the corps MEDCOM is not deployed the MEDBDE veterinarian assumes all the responsibilities of the MEDCOM veterinarian. Other responsibilities of the medical command/brigade veterinarian include conducting inspections and receiving reports that keep him informed on ¾

- The status of food safety, security, and quality assurance.
- Zoonotic diseases transmitted from animals to man.
- Status of veterinary care for MWDs and other GOAs within the AO.
- Status of veterinary units/personnel assigned to the corps.

*d.* The medical command/brigade veterinarian provides staff estimates pertaining to the deployment, employment, and taskings for the MDVS units assigned to the medical command/brigade. These detachments provide veterinary support to all DOD elements operating in the corps.

*e.* The medical command/brigade veterinarian recommends policy for all veterinary operations within the guidelines of its higher headquarters.

### **Section III. VETERINARY SERVICE SUPPORT SYSTEM**

#### **2-7. United States Army Veterinary Command**

The Veterinary Command (VETCOM) provides military veterinary services in support of US Army Medical Command (US Army MEDCOM) and DOD missions in their areas of responsibility as outlined in AR 40-1. In addition, VETCOM assures the readiness of its personnel and deploys individual and unit Professional Filler System (PROFIS) personnel. The responsibilities of VETCOM include food safety and quality assurance, care of GOA, and animal disease prevention and control. The VETCOM has many one-soldier duty sites, where food safety specialists, animal-care specialists, and officers work in cooperation with supported Army, Navy, Marine Corps, Coast Guard, or Air Force facilities. It supports other federal agencies and Public Health Service through memorandums of understanding or agreement (MOU/MOA). Furthermore, the VETCOM structure improves the readiness posture of the veterinary service through shortened chains of command, increased coordination in joint training efforts with Reserve and Active Component TOE units, increased support to the PROFIS, and rapid/effective personnel movements during mobilization.

#### **2-8. Regional Veterinary Commands**

The VETCOM has 5 Regional Veterinary Commands (RVCs) and 17 District Veterinary Commands (DVCs) or their equivalent, through which it supports the DOD. The RVCs under the C2 of the VETCOM perform the same mission as identified for VETCOM above. Each RVC is collocated with a Regional Medical Command. Each RVC commander also acts as a senior veterinary staff officer for the Regional Medical Command (there is not an RVC in Europe; veterinary services there are provided by veterinary units under the 30th Medical Brigade). This structure allows the RVCs to reconcile personnel imbalances within large areas of responsibility. The DVCs are under the C2 of the RVCs and their mission is similar to that of the RVCs.

#### **2-9. Veterinary Treatment Facilities**

*a.* A veterinary treatment facility (VTF) in garrison may be operated by TOE or table of distribution and allowances (TDA) personnel but normally operate under a TDA. All veterinary commanders are responsible for allocating resources and aligning personnel and equipment to provide full care to MWDs. For example, within VETCOM, RVC commanders allocate resources for MWD care. Each DVC

has responsibility for aligning their resources (equipment, facilities, and personnel) to insure that consistently high quality veterinary care is available for all MWDs within the district. The DVC often has a wide range of facilities and equipment available to carry out the MWD mission at the various installations supported. For example, a district may have a well-equipped full-service VTF along with one or several smaller VTFs. Some smaller VTFs are designated as attending sites, where the responsible veterinary corps officer (VCO) is usually not on-site but is permanently assigned at another installation. Although all VTFs are not equal, the DVC must ensure that the quality of care offered for MWDs is consistent with the standards of veterinary medical care. The commander accomplishes this goal through the effective distribution of personnel and equipment. The veterinary commander may elect to equip each VTF similarly or may choose to consolidate routine MWD care to fewer and more centrally located installations. The DOD MWD Veterinary Service (DODMWDVS) is a specialized Level V veterinary care VTF located at the DOD MWD Center (DODMWDC). This unit provides all Levels I, II, III, and V veterinary care to MWDs assigned to the DODMWDC, and Level V consultation and referral or evacuation veterinary care to MWDs and other authorized GOA worldwide.

*b.* Hours of operation for VTFs depend on their location and other veterinary service mission priorities. Most of the garrison VTFs provide emergency veterinary care only during duty hours and most do not have a privately-owned animal (POA) (pets) hospitalization capability. Veterinary services found at a typical garrison VTF are usually limited to small animal veterinary practice, outpatient clinic, yearly examinations and immunizations. Some of the VTFs may be full service and in addition to the services provided above, may provide general surgery, electrocardiogram diagnosis, in-house blood analysis, endoscopy, dermatology (allergy testing and treatment), and x-ray diagnostic. Veterinary personnel assigned to a VTF support all Services. Veterinary personnel assigned to the TDA VTFs are often deployed with TOE veterinary service units to fill veterinary personnel vacancies required for mission accomplishment.

## 2-10. Veterinary Support in the Field

Veterinary support is a FHP function that is required across the full spectrum of operations. Medical detachment veterinary service units provide veterinary services on an area support basis and the MDVM supports the AO.

### *a. Unit Veterinary Support to Military Units.*

(1) Military working dog units. Department of Defense units may have veterinary service personnel attached to provide care for the unit's MWDs. These soldiers are responsible for providing emergency veterinary care (Level I veterinary care) and veterinary preventive medicine measures to their assigned MWDs. They also assist in the evacuation of MWD casualties to the nearest Level II or III VTF. Veterinary service personnel may be deployed with organic USAF MWD units into an operations area.

(2) Area medical laboratory. Veterinary service personnel may be assigned individually or as a complete laboratory section to an AML. These soldiers may provide analysis of food and animal specimens submitted by field veterinary units organic to the AO, depending on the personnel assigned to the laboratory. They—

- Detect and diagnose diseases transmissible from animals to humans.
- Provide a laboratory diagnostic and histopathological support for MWDs.
- Detect CBRN and/or directed-energy exposure in animals.
- Provide microbiological and chemical testing for food safety and quality assurance.

(3) Special operations forces. Veterinary service personnel are assigned and/or attached to special operations forces. These forces work with indigenous military assets and allied or foreign governmental agencies. They assist in planning and executing population and resource control, civic action, and other security, development, and stability programs. During military and paramilitary operations, they assist in planning and executing civic action, humanitarian assistance, and other programs designed to expand the government's legitimacy within contested areas. They also provide estimates and data on the resources essential to build an effective infrastructure for civil health and agricultural administration and operations.

(4) Civil affairs units. Veterinary personnel are assigned or attached at various command levels in CA units. They—

- Assess available infrastructure to support combat forces.
- Support and coordinate humanitarian and disaster relief in coordination with other DOD elements, other US Government agencies, foreign and HN authorities, and international relief organizations.
- Assist in the planning and coordination of noncombatant evacuation operations (NEO) in the areas of food supply and PAO evacuation.
- Assist in coordinating the use of local HN resources such as maintenance of veterinary care facilities. They provide and conduct public health, veterinary PVNTMED, and civil defense operations in conjunction with the local agencies.

(5) US Navy Marine Mammal Systems. Veterinary personnel are assigned to and deploy as organic members of US Navy (USN) Marine Mammal Systems (MMS) Explosive Ordnance Disposal (EOD) Units. These personnel provide Level I, II, and III veterinary medical care to military working dolphins and sea lions that are assigned to mine-detection, port security, and recovery operations. This veterinary support generally reports through USN EOD chain-of-command and functions independent of other Army Veterinary Service units in the AO. Coordination between MMS veterinary personnel and other veterinary units is useful as they may be able to support and augment each others capabilities. Marine Mammal Systems veterinary personnel provide:

- Direct supervision of USN marine mammal transport and deployment operations.
- Supervision of food safety, hygiene, and storage for MMS animal rations (frozen fish).

- Detect, diagnose, and treat disease and injury of deployed MMS animals.
- Direct and coordinate evacuation of MMS animals, as needed.

Level V veterinary medical care for MMS animals is provided by USN Space and Naval Weapons Systems Command Biosciences Division, San Diego, California.

*b. Area Veterinary Support.* Area veterinary support is the primary method of providing veterinary service in the AO. The extent of support is contingent upon resources, time, and the types and numbers of units to be supported. Additionally, veterinary personnel can be placed in DS of approved establishments designated for local procurement. Area veterinary support units also conduct vigorous veterinary PVNTMED programs to identify and control those diseases that can be transmitted from animals to man. Area veterinary medical support to government-owned and indigenous animals can vary from expedient treatment with limited animal medical services, to full medical and surgical care, and hospitalization.

## CHAPTER 3

**FIELD VETERINARY UNIT OPERATIONS****Section I. VETERINARY FACILITIES****3-1. Employment**

Veterinary units must establish facilities at sites best suited to support their mission. Veterinary facilities usually are located in secure areas where logistical support is available. The sites selected are adjacent or collocated with other units (either medical or logistical or both). These sites facilitate the inspection of subsistence that must be performed from the time it is procured or received until it is issued for consumption. They also facilitate the evacuation of MWDs due to medical reasons.

**3-2. Facilities Design**

The commander of the veterinary unit is responsible for the internal layout of veterinary facilities. Veterinary equipment is laid out in a tent or in buildings of opportunity to provide the best possible operation. In the facility design, factors that should be considered are MWD populations supported, unit administration, and personnel living requirements. A decontamination station for animals is established using the same tactics, techniques, and procedures used to establish a patient decontamination station (see Chapter 5 of this manual, and FM 4-02.7). The specific site selected to establish a decontamination station must be downwind of the unit and treatment areas.

**3-3. Logistical Support**

Veterinary units require administrative and logistical support. Support should be obtained from the MEDCOM/MEDBDE or from the ASMB to which the unit is attached. When detached from its higher headquarters, support arrangements should be specifically documented in attachment orders to address all support requirements for the veterinary unit.

**Section II. VETERINARY SERVICE SUPPORT FOR SUBSISTENCE****3-4. Subsistence Stock**

*a.* When a new AO is being established, units bring their subsistence into the new theater as part of the prescribed unit basic load (UBL). Operational rations include, but are not limited to, meals, ready to eat (MRE); unitized group rations-A (UGR-A); UGR-heat and serve (UGR-H&S); and medical diet supplement. MRE and UGR-H&S will be consumed in the theater during the early stages of conflict. UGR-A (including perishable and semi-perishable items) will be introduced into the AO when refrigerated transport and storage assets are available. Enhancements to the operational rations (bread, fruit, and milk—usually in ultra high temperature [UHT] form) are recommended for MRE and required for UGRs and must be from approved sources. For definitive information on the types of rations used to support the AO, see FM 10-23 and Natick Pam 30-25.



b. Meals, ready to eat may be consumed as the sole source of subsistence for twenty one days (see AR 30-22). After 21 days, they must be enhanced with authorized enhancements, as identified in DA Pamphlet 30-22, or alternate rations will be served.

c. In an established AO, other subsistence besides operational rations may be available from such sources as the Military Exchange System; Dining Hall/Prime Vendor; Morale, Welfare, and Recreation (MWR); and American Red Cross.

### **3-5. Subsistence Support to the Theater of Operations**

Veterinary support will also be required for those USAF, United States Marine Corps (USMC), United States Coast Guard (USCG), USN and GS and DS supply and service units. The assurance of food safety is essential to the health of the commands. The sanitary inspection and food screening at places of procurement, production, storage, and conveyances is an integral part of assuring food safety, security, and quality assurance. Recommendations on the disposition of food supplies are performed by veterinary units to ensure only wholesome and safe food is consumed. Veterinary units are also responsible for determining the disposition (destruction/decontamination procedures [FM 4.02-7]) of CBRN-contaminated rations. Veterinary support requirements are based on the mission and the size of the force supported. Medical detachments, veterinary service are found in support of a TSC, area support group (ASG), and area support battalion (ASB) and other Services' GSUs that receive, store, and distribute subsistence. These EAC GSUs generally provide support from fixed facilities located near ports of embarkation and debarkation. Additional food safety and quality assurance support is provided to subsistence platoons, support companies, supply companies, and support battalions. The requisitioning and distribution of subsistence is explained in FM 10-23. Figure 3-1 depicts the flow of Class I requisitions and Figure 3-2 shows the flow of rations in the TO. Veterinary units are found in support of those corps and divisional combat service support (CSS) units that receive, store, and distribute subsistence that is in support of those corps support command (COSCOM) GSUs, and division support commands (DISCOMs), DS units (DSUs) within the AO.

### **3-6. Army Subsistence Requisition and Supply System in the Theater**

Requisitions for all classes of supply, including Class I, are initiated in the battalion field trains. From that point, the requisitions are forwarded to the DSU, then through the DMMC, COSCOM materiel management division (MMD) or materiel management team (MMT), TSC Materiel Management Center (TSCMMC), and then to the Defense Supply Center Philadelphia, (DSCP), Pennsylvania. The TSC receives corps requirements and routes material to the ASG MMT. The subsistence is shipped by DSCP from depots or vendors for delivery to the theater GSU where it is distributed to the COSCOM subsistence supply point. Subsistence shipments may also be shipped directly from CONUS to the COSCOM. Next, subsistence moves to the division MSB in the Army of Excellence, and DSB in the digitized division, which distributes to the supported units in the division support area (DSA). The MSB/DSB also distributes to the FSB's forward ration breakdown point (FRBP) that distributes to the field kitchens. The assurance of food safety is essential to the health of the command. The sanitary inspection and food screening at places of procurement, production, storage, and at transport (where appropriate) is an integral part of assuring food safety, security, and quality assurance. Inspections to include the recommendations on the disposition of food supplies are performed by veterinary units to assure only wholesome and safe food is consumed.

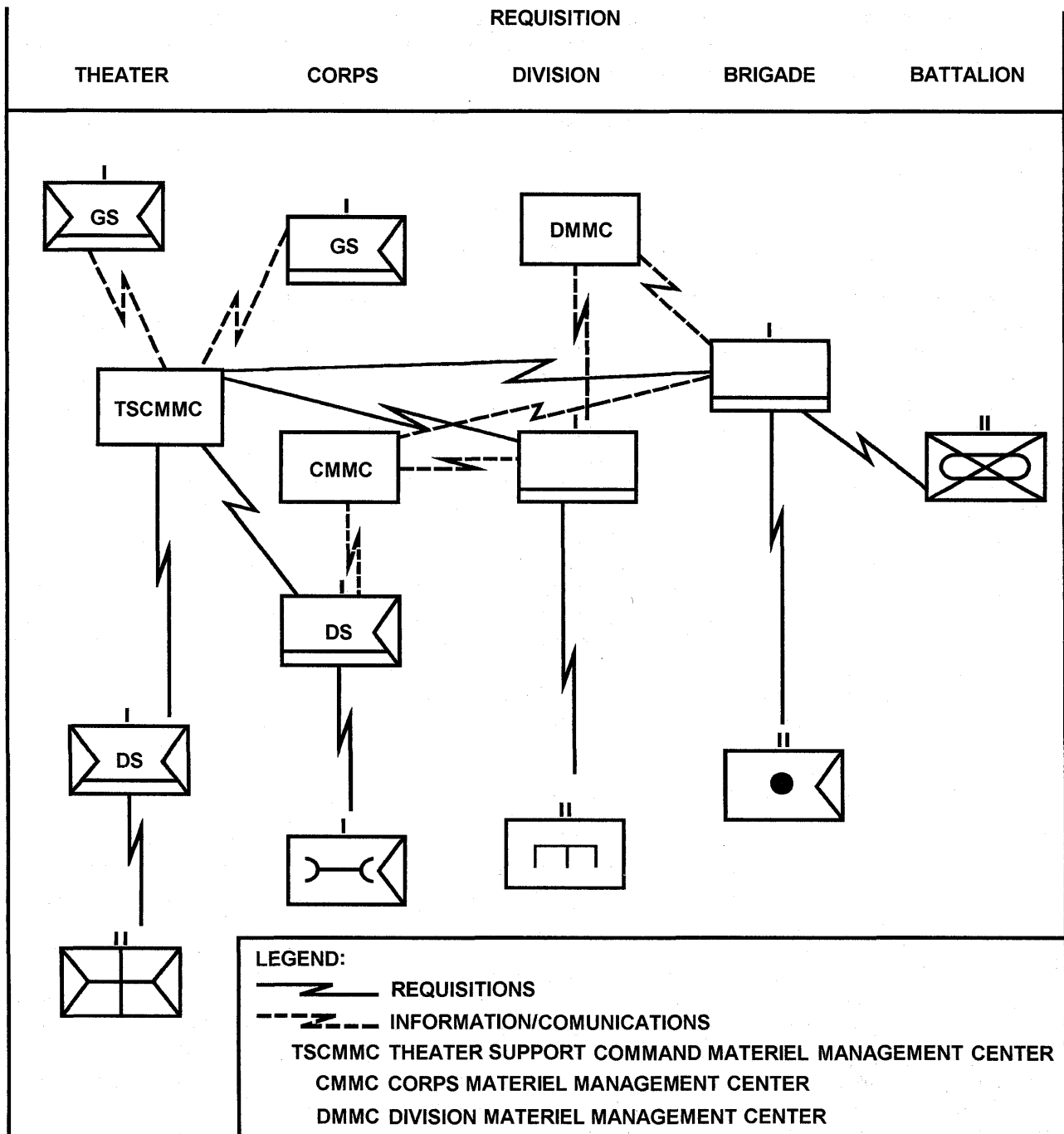


Figure 3-1. Flow of Class I requisition in the theater of operations.

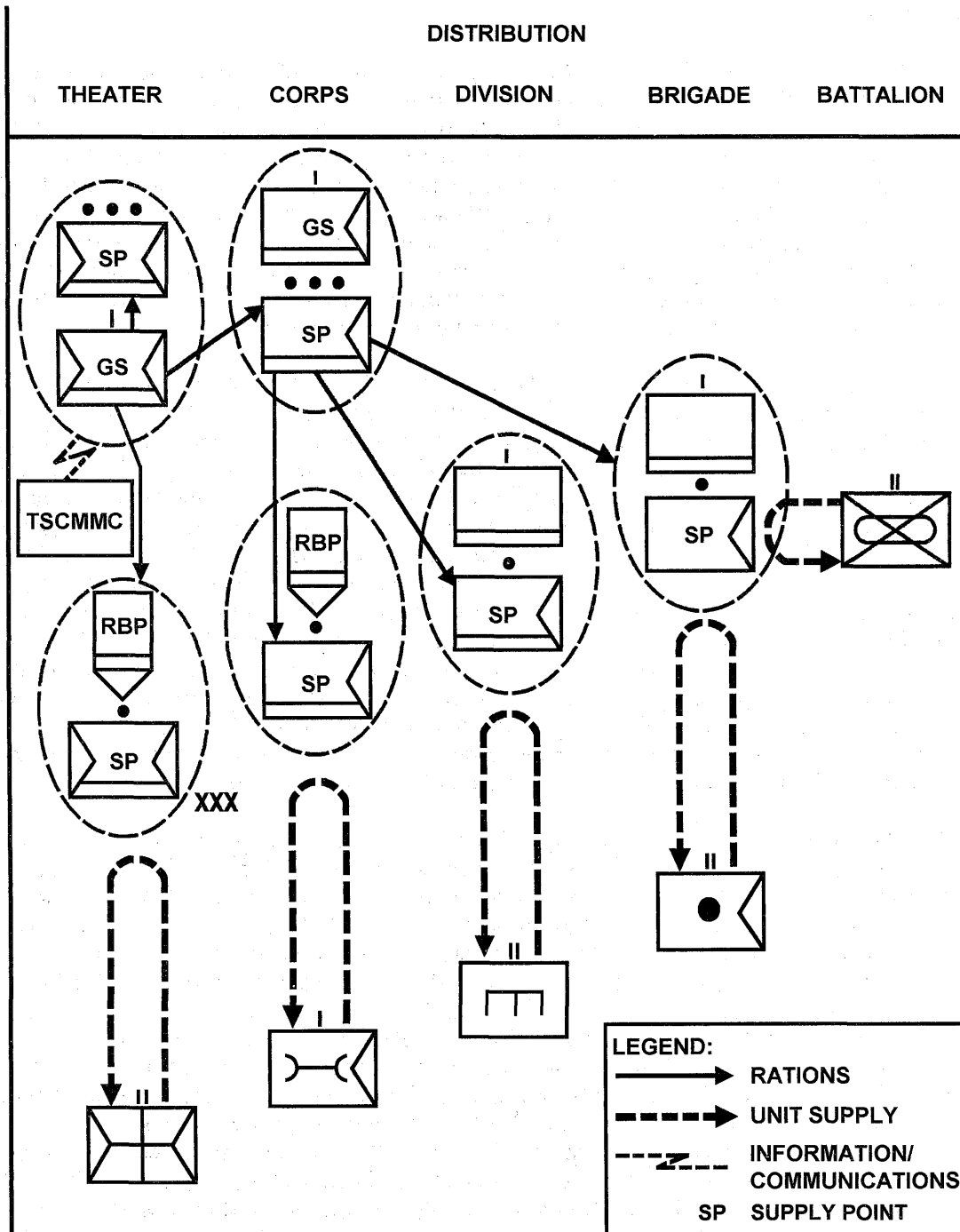


Figure 3-2. Flow of rations in a theater of operations.

### 3-7. Food Safety

a. *Basic Sanitation and Proper Cooking.* Until the 1960s, food safety focused primarily on basic sanitation and proper cooking. Most food was consumed soon after harvesting and production because there was no efficient way to store fresh products for extended periods of time. This very elementary approach was not very effective at reducing illnesses caused by microbiological pathogens, and it was incapable of addressing chemical contaminants such as pesticide or antibiotic residues. When the National Aeronautics and Space Administration (NASA) established the goal to put a man in space, they recognized that foodborne illness could incapacitate a pilot and thus jeopardize the entire mission. Moreover, in recent years, the ability of bacteria to cause disease has increased and the number of pathogens that can cause death or severe prolonged illness have decreased. The level of protection provided by basic sanitation was inadequate and the demand for improved food safety required a new system.

b. *Hazard Analysis Critical Control Point.* In the 1960s the food industry developed a new philosophy toward food safety called hazard analysis critical control point (HACCP). An effective HACCP system ensures that food is processed and prepared in such a manner that foodborne illness is dramatically reduced. To ensure this level of safety however, the HACCP plan must be verified and validated. Microbiological and chemical testing is the primary method of validating various points in the HACCP system. Historically, the only way the veterinary service could effectively validate HACCP systems for food and bottled water was to ship samples back to diagnostic laboratories in CONUS or Germany. Recent concern about spreading diseases like foot and mouth disease make it increasingly difficult to ship samples from one country to another. Experience has shown that relying solely on reference laboratories for food testing is burdened with problems. Therefore, veterinary units in the near future will have enhanced capabilities to perform microbiological and chemical tests and to monitor and screen food processing systems, thus reducing the risk for foodborne illnesses wherever US forces are located. This will decrease the amount of time to determine the safety of questioned subsistence stocks and determine the best method for disposition. It will allow logisticians to release subsistence stock proven to be safe for consumption or aggressively dispose of contaminated subsistence stocks and reorder replacement stocks.

c. *Foodborne Illness.* Historically, foodborne illness has been caused by accidental microbiological or chemical contamination. Recent events have highlighted the possibility that food may be intentionally contaminated with various agents that could cause catastrophic illness or death. The microbiological and chemical testing equipment used to validate HACCP systems may also be used to identify intentional contamination of food. This added capability is extremely important to assess the extent and mitigate the risk of intentionally contaminated food and water being consumed by US forces.

d. *Statistical Sampling and Screening Principles.* Testing food cannot be accomplished without destroying the package and part of the product (destructive sampling). In addition, testing requires considerable time and expense. Consequently, it is not feasible to test every package of food before it is consumed. The remaining option is to rely on statistical sampling so that random samples are taken at various intervals. This form of sampling is quite effective for fluid products in which bacteria tend to be randomly distributed. Random sampling, however, is not very effective at identifying microbial pathogens in solid food unless the level of contamination is relatively high. If microbial pathogens are present in food, they are usually in very low levels and contamination is found in localized areas rather than uniformly distributed. Thus, screening for pathogens that are present in low levels is usually not an effective means of

ensuring the safety of foods. When possible, it is better to test for indicators such as total plate counts, coliforms, or generic *E. coli* that are likely to be present in higher levels when food is contaminated with pathogens. The testing capabilities in veterinary units will focus on screening capabilities for microbiological and chemical contaminants. If a sample tests positive on the initial screen, more definitive testing can be completed at the DOD Food Analysis and Diagnostic Laboratory (FADL) at Fort Sam Houston, Texas or the US Army Veterinary Laboratory in Germany.

### 3-8. Food Security

The security of food from the point of origin until it is consumed by stateside or deployed US forces must be maintained. Security and proper storage are key factors in preventing deliberate contamination of food and water. To mitigate the risk for foodborne illnesses, all units must use the basic principles of risk management. See FM 100-14 for definitive information on risk management. The basic principles for risk assessment should be the guide for developing techniques and procedures for ensuring food security. See Technical Guide (TG) 188 for definitive information.

*a. Risk Management for Food.* All planners must integrate risk management for food and water into the mission planning, preparation, and execution of all operations. They must answer the questions about what needs to be done to ensure our food and water is secure, protected, and safe for consumption. The medical planner should identify all food security and safety issues as they develop the medical annexes to operations orders. The veterinary staff officer provides input on all food safety and food security issues to the medical planner for inclusion in the medical annexes of the HSS plan. Commanders must be aware that food security is part of the overall FHP effort.

*b. Risk Decisions.* Make risk decisions at the appropriate levels in the chain of command. The responsibility for food security and safety must be assigned and or identified by tactical standing operating procedure(s) (TSOP). Commanders are ultimately responsible for food safety and security.

*c. Food Safety Risks.* Do not accept any unnecessary risk when it comes to the safety of food and water.

### 3-9. Testing, Screening, and Collecting Food Samples in the Field

Currently there is minimal testing that can be done at the deployed unit level. Suspect food samples are sent to the FADL in Fort Sam Houston, Texas or to the US Army Veterinary Laboratory, Germany. In the near future the MDVS will be able to screen food samples for the presence of foodborne pathogens and biological warfare agents. If a pathogen or biological agent is detected through the screening process, food samples are collected and shipped to a confirmatory laboratory for further analysis. Collecting food samples for laboratory analysis can be accomplished during procurement, receipt, or surveillance of food items. Either veterinary or preventive medicine personnel may collect food samples from food procurement establishments or dining facilities. Food samples will be split so that a portion of the original sample is preserved until the field-testing is completed. For definitive information on how samples are prepared for shipment to the supporting laboratory, see Appendix B of FM 4-02.7 and the applicable food laboratory

sample guide. Samples must be properly labeled, packaged, and shipped to ensure they arrive in a condition acceptable for analysis. Perishable samples should be maintained at a temperature of 1o to 4oC during transport. Containers must be approved by the International Air Transportation Association and must contain sufficient material to absorb the entire contents in the event of a leak. The technical escort unit should transport food samples suspected of containing biological or chemical warfare (CW) agents. A documented chain of custody using DA Form 4137 (Evidence/Property Custody Document) must accompany all samples suspected of being intentionally contaminated or containing pathogens. These samples will not be split prior to arrival at the first receiving laboratory. This will prevent accidental contamination of the samples and ensure that valid samples arrive at the destination laboratory.

### 3-10. Using the Nine Steps of Risk Assessment for Food Safety and Food Security

The nine steps of risk assessment may be applied by the teams of the MDVS to assist with their food safety mission.

*a. Step 1. Identify the Hazards.* Veterinary support teams, detachments, and other veterinary personnel should develop a comprehensive list of the food items in their AO. They must develop an understanding of the food items to include manufacturing, transportation, storage, distribution, and preparation. Each of the areas should be evaluated for critical control points with respect to naturally occurring contamination and intentional contamination.

*b. Step 2. Conduct On-site Visits.* Veterinary support teams perform audits of food processing and storage facilities to gather information necessary to assess and mitigate risk.

*c. Step 3. Identify Hazards and Determine Risks or Vulnerabilities.* Evaluate hazard probabilities. In food products this means understanding the likelihood of a particular bacteria, virus, toxin, or chemical being present in a particular type of food. For example, locally purchased dairy products may be naturally contaminated with *Brucella* spp. However, it is unlikely that MRE would be contaminated with *Brucella* spp.

*d. Step 4. Assess Hazard Severities for Toxic Agent or Poison.* The severity of disease/illness resulting from different exposures to toxic substances must be understood. Staphylococcal toxin for example, gastrointestinal exposure to Staphylococcal enterotoxins, will result in disease within 12 hours that usually resolves within 48 hours. By comparison, ingestion of a poison such as cyanide may result in death within minutes. Obviously, the severity of illness resulting from cyanide exposure is much greater than that of enterotoxin exposure. Using guidelines established in TG 188, risk levels for food and water hazards can be characterized by using probabilities and severities developed above.

*e. Step 5. Develop Controls to Recommend to Commanders.* Veterinary personnel can provide guidance to the commander by suggesting controls in the following areas to include:

- Training personnel on sanitation, cooking, safe storage, and temperature requirements for food in all operations/missions during peacetime and war.

- Ensuring physical security (limit access to food storage facilities; installing surveillance equipment; seal transport trucks and verify seals with shipping documents; key control) and contamination avoidance (criminal background checks of food service personnel and truck drivers, eliminate easily contaminated food from the menu, use operational rations as opposed to A-Rations).

f. *Step 6. Determine Residual Risk.* If recommended controls are implemented, examine the risk level that is not controlled.

g. *Step 7. Implementation Control Responsibility.* Control points must be clearly communicated to commanders and their staffs. Commanders must evaluate the risks, then integrate controls into their operations for food safety and security.

h. *Step 8. Determine Overall Risk Level.* See TG 188 or FM 100-14.

i. *Step 9. Supervise and Evaluate.* Veterinary personnel play a key role in evaluating the success of controls on mitigation of risk from food and water.

Successes and failures should be reported to the commander so adjustments to the control measures can be made, if required.

## **Section III. VETERINARY SERVICE SUPPORT FOR ANIMAL CARE**

### **3-11. Levels I and II Animal Care in Theater**

Level I (unit level) veterinary care for MWDs includes medical triage, EMT, stabilization, and evacuation. Level II veterinary care is the same as Level I except it has additional capabilities that include having anesthesia and being able to perform some limited surgical procedures. The MDVS has a primary mission of food safety and quality assurance but also provides Levels I and II veterinary care to supported units. The VSST deployed from the MDVS has a primary mission of food safety/quality assurance, but can also provide Levels I and II care to supported units with MWDs. Due to the possible wide dispersion of MWDs within the corps, the MDVS normally locates near the geographic center of supported units or with the elements requiring the most support (assuming all other logistical and force protection requirements are met). The MDVS normally locates near a MSR and the lines of communication (LOC) that allow for the ease of patient flow and evacuation of the MWDs. Medical detachments, veterinary service and or its veterinary service teams may also be collocated with a medical task force (any branch of service) to enhance animal care support through available radiographic and dental surgery support. The MDVS also provides preventive veterinary medicine functions during support operations and stability operations. Veterinary elements may also provide limited care for indigenous animals in the AO. Animal medicine and surgical support will be required for those Army, USAF, USMC, USN, and USCG MWDs and other GOAs that will be supported on an area basis. The animal care specialist may be attached to bases with a high concentration of MWDs to provide on-site Level I veterinary health care support. The MDVS provides supported units with a veterinary service hazard probability and risk assessment. This assessment identifies animal- and food-related threats within the AO, the risk associated with the threat and their probability of happening. See Figure 3-3 for an example of the veterinary service hazard probability and risk assessment that can be provided to supported units.

Figure 3-3. Veterinary service hazard probability and risk assessment.

| VETERINARY SERVICE HAZARD PROBABILITY AND RISK ASSESSMENT                                                                                                                                                                                                                    |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANIMAL RELATED THREATS                                                                                                                                                                                                                                                       |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| HAZARD                                                                                                                                                                                                                                                                       | PROBABILITY | RISKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| CONTACT WITH STRAY DOGS/CATS/WILD ANIMALS                                                                                                                                                                                                                                    | A           | During deployment, soldiers will come into contact with stray dogs/cats and/or wild animals. These animals can carry diseases which affect humans such as Rabies, Leishmaniasis, <i>Salmonella</i> , <i>E. coli</i> , Cat Scratch Fever, Ring Worm and Scabies and carry parasites such as fleas and ticks which can transmit diseases such as Plague and Lyme disease to soldiers. Complications from untreated disease or bites could cause serious illness or even death. |
| CONTACT WITH UNAUTHORIZED PETS (MASCOTS)                                                                                                                                                                                                                                     | B           | Same Risks as stray dogs/cats/wild animals.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| CONTACT WITH DOMESTIC LIVE STOCK                                                                                                                                                                                                                                             | C           | During deployment, soldiers may come into contact with domestic livestock. These animals can carry diseases which affect humans such as Rabies, Anthrax, Tuberculosis, Brucellosis, <i>Salmonella</i> , <i>E. coli</i> or carry parasites. Livestock can carry Foot and Mouth Disease (FMD) and Rinderpest that will effect forward and retrograde movement and equipment wash down procedures.                                                                              |
| FOOD-, WATER-, AND ICE-RELATED THREATS                                                                                                                                                                                                                                       |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| HAZARD                                                                                                                                                                                                                                                                       | PROBABILITY | RISKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ACCIDENTAL CONTAMINATION (improperly prepared, temperature abused, improper storage, poor personal hygiene by food handlers)                                                                                                                                                 | A           | Temperature abused, improperly prepared or improperly stored food that is consumed can lead to food poisoning from bacteria such as <i>Salmonella</i> , <i>E. coli</i> , <i>Shigella</i> or <i>Listeria</i> or toxins resulting in diarrhea, vomiting, dehydration and potentially death. Poor personal hygiene by food handlers can also lead to food poisoning from the same bacteria.                                                                                     |
| OBTAINING AND CONSUMING FOOD FROM AN UNAPPROVED SOURCE                                                                                                                                                                                                                       | B           | During deployment, service members may consume food, water, and ice from unapproved sources which can lead to food poisoning from bacteria or toxins, parasite ingestion, diarrhea, dehydration and death. Heavy metal contamination such as lead and mercury can lead to long term effects such as liver damage, birth defects, and death.                                                                                                                                  |
| CHEMICAL, BIOLOGICAL, RADIOLOGICAL OR NUCLEAR ATTACK                                                                                                                                                                                                                         | D           | The risk is agent dependent, dose and duration of exposure dependent; however, the outcome would be similar to "Obtaining and Consuming Food from an Unapproved Source."                                                                                                                                                                                                                                                                                                     |
| DELIBERATE CONTAMINATION (microbial, chemical, physical)                                                                                                                                                                                                                     | D           | The risk is agent dependent, dose and duration of exposure dependent; however, the outcome would be similar to "Obtaining and Consuming Food from an Unapproved Source." Foreign objects (such as razor blades) may also be in the food and cause harm to the service member.                                                                                                                                                                                                |
| <b>PROBABILITY:</b> (A) Frequent: Occurs very often, continuously experienced; (B) Likely: Occurs several times; (C) Occasional: Occurs sporadically; (D): Seldom: Remotely possible, could occur at some time; (E) Unlikely: Can assume will not occur, but not impossible. |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Prepared by:                                                                                                                                                                                                                                                                 |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Unit:                                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Date:                                                                                                                                                                                                                                                                        |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



### **3-12. Level III Animal Care in Theater**

This level of support expands the support provided at Level II. Level III animal care includes comprehensive/definitive veterinary medical and surgical services and animal hospital care for MWDs. It provides for patient regulating and handler movement coordination and administrative and reporting services for evacuation. It also includes treatment and coordination for evacuation for injured/ill MWDs from other veterinary Level I and II units/elements. Level III veterinary care provides for a mobile element for triage and EMT that is capable of immediate deployment to an area of high, or potentially high, casualties. Veterinary consultation service is available for outpatient support including unit-level support. Level III also includes limited care for other GOAs and large animals under certain conditions of government interest for stability operations and support operations.

#### **NOTE**

Level III veterinary care is the highest level of care found in the theater or an AO. Level V (CONUS-based) definitive veterinary care for MWDs is provided at the DOD MWD Training Center by the Army Veterinary Service Unit's specialized treatment and hospital facility located at Lackland, Air Force Base, San Antonio, Texas. Military working dogs requiring specialized and/or extended treatment may be evacuated to this Level V (CONUS-based) fixed veterinary specialized treatment facility as determined by consultation between Level III and Level V animal care providers.

The MDVM provides Level III veterinary medical, surgical, and animal hospital care for 50 to 200 MWDs and other GOAs. These detachments are normally found in support of large concentrations of MWDs along evacuation routes and near major USAF bases when established. Animal medicine, surgical support, and animal hospital care is required for those USAF bases with MWDs. Additional animal medicine support for USMC and USN MWDs will be based on population strengths.

### **3-13. Class VIII Resupply for Animal Medicine**

Class VIII resupply is provided by the supporting MEDLOG unit. Controlled drugs used in animal medicine must be stored, handled, and inventoried according to AR 40-61, using DA Form 3949/3949-1 (Controlled Substances Record/Inventory).

### **3-14. Medical Maintenance**

The MDVS is dependent on the supporting MEDLOG unit for medical maintenance support.

## CHAPTER 4

**VETERINARY SERVICE IN STABILITY OPERATIONS  
AND SUPPORT OPERATIONS****4-1. Stability Operations and Support Operations**

*a.* Stability operations and support operations are conducted during peacetime and conflict. Conflict is characterized by hostilities to secure strategic objectives. The President of the United States may commit US Army units to operations pertaining to—

- Nation assistance.
- Security assistance.
- Humanitarian assistance and disaster relief.
- Counterdrug operations.
- Peace enforcement operations.
- Peacekeeping operations.
- Arms control.
- Homeland security/combating terrorism.
- Show of force.
- Attacks and raids.
- Noncombatant evacuation operations.
- Foreign internal defense.
- Domestic support operations (see paragraph 4-3, below and Appendix C).

*b.* In support of the operations identified above, the provision of HSS and health education play a more direct role in countering both the medical and general threat. Health service support for stability operations and support operations can be defined as those actions encompassing all military health-related activities taken or programs established to further US national goals, objectives, and missions. In stability operations and support operations, the interrelationship of human and animal health, disease transmission, and economics is often complex. It can affect the overall health of a country. Livestock (for example horses, cattle, goats, and hogs) affect both the economy and public health. The care and immunization of these important resources merit attention in the planning and funding of humanitarian and civic assistance and disaster relief operations. Expendable veterinary drugs and supplies necessary for care of livestock are not normally available through military supply channels. These supplies must be resourced and procured early in the mission planning process and development phases of the operation.

*c.* Veterinary service can contribute to the success of HSS in stability operations and support operations. This is accomplished by—

- Ensuring that subsistence and food sources are inspected for food safety, security, wholesomeness, and quality assurance.
- Providing care for MWDs and other GOAs and authorized civilians and indigenous animals.
- Helping to improve the public health of the population with such programs as—
  - Animal vaccinations for enzootic/zoonotic diseases.
  - Public health and sanitation training.
  - Training in food safety, and inspection techniques.
  - Herd health and animal husbandry programs, when specifically authorized.

#### **4-2. Noncombatant Evacuation Operations**

*a.* Noncombatant evacuation operations are conducted to relocate civilian noncombatants and nonessential military personnel whose lives are in danger from a hostile environment or natural disaster. They may also include the evacuation of US military personnel and dependents, selected citizens of the HN, and third country nationals. These operations are of short duration and consist of rapidly inserting a force, occupying an objective, and making a planned withdrawal. The amount of force used is limited to that required for self-defense and the defense of the operation. The level of hostilities encountered varies with each specific mission. The key factor in planning for this type of operation is the correct appraisal of the politico-military environment.

*b.* The evacuation of pets is a very emotional issue for the military pet owner and every effort should be made to plan for their evacuation. The senior veterinary staff officer is responsible for developing a pet evacuation plan that will maximize the number of pets evacuated with their owners to minimize the logistical work load burden on the supporting logistical elements.

*c.* Veterinary support for NEO depends upon the planned length of the operation.

(1) During the NEO, the prevention of foodborne and waterborne diseases is important. In these operations, local food supplies are normally used to feed the evacuees while they are in the assembly area. This subsistence requires careful inspection by veterinary service personnel to ensure food wholesomeness, safety, and security.

(2) Veterinary support is required to ensure that pets are handled and moved/transported in a safe and humane manner and to ensure that exotic animal diseases are not brought into the US. In guidance

and policy received from DOD in recent NEO, euthanasia of privately owned pets was not an option. Therefore, deliberate planning for euthanasia of privately owned pets during NEO will not be considered as an option. The animals of personnel being evacuated either accompany the owner or will be shipped via other military transport.

#### **4-3. Domestic Support Operations**

*a.* When appropriate government authorities request military services through DOD to provide veterinary support in domestic emergencies within CONUS, Army veterinary units/teams will resource the requirement. In May 1993, Veterinary Services became incorporated into the Federal Response Plan for disaster relief as part of the National Disaster Medical System. When requested, Army veterinary personnel will work with local and federal government agencies as part of the federal response plan. The US Army VETCOM has organized the food safety, veterinary PVNTMED, and animal health care special medical augmentation response team—veterinary (SMART-V) using its TDA assets. The mission of this SMART-V is to assess the degree of existing destruction and/or impending risk and to determine recommended follow-on actions relative to animal health and food safety. See FM 4-02 for additional information on SMART-V.

*b.* Veterinary support may be required in disaster assistance operations to ensure the wholesomeness and safety of the food supply. Veterinary personnel may work with the USDA in the control, treatment, and eradication of animal disease outbreaks. Additional support may include the care and treatment of sick and injured animals and control of those separated from their owners. Treatment and control of wild animals may also be required. The Army veterinary unit may establish VTF and provide triage and EMT of injured animals, including lifesaving emergency procedures. In some cases veterinary personnel may perform euthanasia to prevent undue suffering of the animal. They may also provide veterinary care for MWDs involved in search and rescue and, when authorized, to animals of other government and nongovernmental agencies participating in the operations.

#### **4-4. Humanitarian and Disaster Relief Operations**

*a.* Humanitarian and disaster relief operations provide emergency assistance to victims of natural and man-made disasters abroad. These operations are responses to requests from foreign governments or international agencies.

*b.* Veterinary support for humanitarian and disaster relief operations may be, but are not limited to, food safety and quality assurance, animal medicine, and veterinary PVNTMED. For example, food supplies used in humanitarian and disaster relief operations are normally quickly procured, often without proper specifications. These supplies usually approximate native diets. Veterinary personnel ensure that only safe and wholesome food supplies are used. In the aftermath of a disaster, such as a hurricane, there will be many animals (such as privately owned pets, livestock, and wild animals) wandering through disaster sites. Some of these animals will be injured or sick. Veterinary personnel provide professional assistance to effectively manage these issues for the safety of disaster victims, rescue workers, and the animals. Further, veterinary personnel can assist in the control of enzootic and zoonotic diseases.

#### **4-5. Security Assistance**

*a.* Security assistance consists of the group of programs authorized by the Foreign Assistance Act of 1961 (Amended), the Arms Export Act of 1976 (Amended), and other related statutes. Through security assistance programs, the US provides defense materiel, military training, and defense-related service by grant, loan, credit, or sales to further its national policies and objectives.

*b.* Veterinary support may be required when friendly or allied nations face an imminent threat and require logistical support.

(1) If logistical support includes transporting subsistence, there will be an increased demand to inspect food cargos for wholesomeness and safety. The conditions imposed by short-notice deployments may stress food due to the lack of refrigeration or other factors, thereby requiring additional inspections.

(2) The assistance provided may include MWDs or GOAs. These animals require veterinary support to sustain them and ensure they remain disease free.

#### **4-6. Support to Counterdrug Operations**

*a.* Military efforts principally support law enforcement agencies, the counterdrug effort of other US agencies, the US states, and cooperating foreign governments to interdict the flow of illegal drugs at the source, in transit, and during distribution.

*b.* Veterinary support to counterdrug operations may include—

- Caring for GOAs used in these operations.
- Assisting the HN in developing alternate forms of agriculture/livestock production to produce revenue.

#### **4-7. Combating Terrorism**

*a.* Combating terrorism has two major components—antiterrorism and counterterrorism. During peacetime, the Army combats terrorism primarily through antiterrorism, which are those passive defensive measures taken to minimize vulnerability to terrorism. Antiterrorism is a form of force protection, thus the responsibility of Army commanders at all levels. Antiterrorism complements counterterrorism, which is the full range of offensive measures taken to prevent, deter, and respond to terrorism. Counterterrorism occurs in conflict and war; antiterrorism occurs across the range of military operations.

*b.* It is important that veterinary personnel be involved in the planning to counter the terrorist threat. The terrorist threat may include the employment of CBRN weapons/agents. Veterinary personnel must be alert to the potential use of these CBRN weapons/agents and report any suspected use to appropriate authorities. Personnel, animals, and food supplies are highly susceptible to biological agents. Veterinary personnel conduct risk assessment to determine vulnerability of food supplies to terrorist sabotage and

ensure appropriate food security measures (see Chapter 3, paragraph 3-8) are implemented according to TG 188. Veterinary personnel must be prepared to inspect potentially contaminated foodstuffs and care for affected animals.

#### **4-8. Peace Support Operations**

*a.* Peace support operations encompass a wide range of activities that establish or sustain peaceful conditions or foster the conditions essential to establishing peace. Peace support operations include essentially diplomatic activities under the titles of peacemaking, peace building, peacekeeping, and peace enforcement. Other activities which support peace operations may include humanitarian and civic assistance. The involvement of US forces is limited in peacekeeping and peace building operations as these activities occur mainly in the political arena. Veterinary support is required in most peace support operations. For information pertaining to overall HSS for peace support operations, see FM 8-42.

*b.* Due to the nature of these operations, local procurement of subsistence may be a means to support the local economy while ensuring that the food, bottled water, and block or packaged ice procured is safe for consumption. This is an important mission for veterinary personnel.

*c.* In peace support operations, MWDs may be required to perform many tasks (such as guarding areas and conducting bomb searches). For additional information on MWDs, see Appendix D. Veterinary support is required to sustain the use of these and other GOAs.

#### **4-9. Support for Foreign Internal Defense**

*a.* Most foreign internal defense activities focus on helping a HN prevent the development of an active insurgency. If an insurgency already exists or preventive measures fail, foreign internal defense focuses on eliminating, marginalizing, or reassimilating the insurgent element into society. The US provides military support to counterinsurgency efforts, recognizing that military power alone cannot achieve lasting success. United States military power cannot, and will not, ensure the survival of regimes that fail to meet their people's basic needs. Military programs and US actions promote a secure environment in which to implement programs that eliminate causes of insurgency and encourage insurgents to rejoin civil society. As with other foreign internal defense actions, combat operations in support of foreign internal defense must continue to balance security with economic development to enhance or reestablish stability. Such actions are generally accompanied by indirect and DS to foreign internal defense. The arenas of support for insurgency provide the greatest challenges and are the most complex programs in stability operations and support operations.

*b.* Veterinary support for insurgency operations may include providing training to indigenous guerrilla forces in establishing a food procurement system, inspecting food, caring for MWDs or other animals, and performing animal husbandry techniques. Once established, the veterinary service can assist in establishing a food procurement system or in enhancing an already existing system.

(1) The US Army Veterinary Service's most challenging and nontraditional roles include enhancing the stability of the HN government and assisting in establishing programs that benefit the HN's populace. Veterinary service participation in humanitarian activities must be thoroughly coordinated through the country team. Coordination with such agencies as the Department of State, US Agency for International Development (USAID), HN Ministry of Agriculture and other counterpart agencies may be required.

#### NOTE

The US Army veterinarian is not a member of the country team. Face-to-face coordination with relevant members of other US governmental and HN agencies, however, is indispensable if veterinary programs are to be successful.

- The USAID is responsible for helping HNs improve their health care system (including veterinary care). The USDA is often involved with developing HN agricultural programs. Both agencies are frequently not on-site for executing programs, but rather contract with outside agencies for the actual implementation.

- The US military often has veterinary resources and a logistical support system already in-country to execute and effectively promote such programs. The military veterinarian can develop course(s) of action (COA) to support the overall veterinary effort.

(2) In developing, coordinating, and establishing US military veterinary support to the foreign internal defense (FID) effort, several factors must be considered. The primary issue is to determine the specific veterinary support required. If the mission is a combination of activities, then priorities must be established. Once the mission is established, the level of veterinary resources and assets available is determined. The planning considerations include, but are not limited to—

- State of development of the HN's veterinary infrastructure.
- Accessibility operations and affordability of the HN's veterinary services.
- Human and animal disease prevalence data.
- Status of agricultural production system.
- Determination of the local names for common diseases.
- Climatic factors.
- Agriculture economics (market system, cooperative, banking).
- Infrastructure (roads, rivers, electric power).

- Availability of animal foodstuffs.
- Production of food commodities (manufacturing).
- Types and amounts of immunizations for livestock chemoprophylaxis.
- Development of programs which focus on long-term projects.
- Consideration of social, religious, cultural, and political factors present in the HN.

However, there are a number of programs which can be developed and would require only short-term US military involvement. These include, but are not limited to—

- Vaccination programs in which a single-dose application provides lasting immunity.
- Village-level external parasite control facilities.
- Vampire bat control program.
- Water well and windmill construction in selected areas to improve animal grazing capabilities.
- Local control of toxic plants on grazing lands.
- Long-term programs to improve animal health and increase food production based on solid economics and the phase out of US assistance are optimal solutions for changing some of the environmental conditions that insurgents focus on. Such programs must be developed after extensive evaluation by regional experts. Programs requiring active participation by local financial institutions tend to be extremely successful. They provide incentive, produce tangible rewards, and succeed. An example would be a requirement by local banks to have the producer feed mineralized salt and vaccinate the cattle against hoof and mouth disease in order to secure livestock production loans.

(3) Innovation and creativity are the hallmark of a successful humanitarian and civic assistance program. Veterinary service capabilities include:

- Assisting in veterinary laboratory development.
- Assisting in vaccine production development.
- Training HN or indigenous personnel.
- Assisting in the development of a drug and vaccine distribution system.
- Assisting in the development of disease control and eradication strategies.



- Improving food plant sanitation.
- Conducting epidemiological surveys.
- Assisting in animal disease and parasite control.
- Developing a food inspection system.
- Developing education and exchange programs.
- Serving as advisors for veterinary activities (food & animal).

## CHAPTER 5

**VETERINARY SERVICE IN A CHEMICAL, BIOLOGICAL,  
RADIOLOGICAL, AND NUCLEAR ENVIRONMENT****Section I. VETERINARY UNIT OPERATIONS****5-1. Veterinary Plans and Procedures for Veterinary Unit Operations**

a. *Procedures.* The commanders of MDVS, develop contingency plans and TSOPs required for the veterinary teams in a CBRN environment (see Appendix A for a sample format for the veterinary support portion of the HSS plan). Plans and TSOPs include procedures for—

- Protecting veterinary personnel in the CBRN environment.
- Training veterinary personnel to function in the CBRN environment.
- Monitoring the security and protection of subsistence in the CBRN environment.
- Maintaining assigned CBRN equipment.
- Inspecting subsistence in the CBRN environment.
- Monitoring the decontamination of CBRN-contaminated subsistence, MWDs and other GOAs.
- Treating MWDs and other GOAs that become CBRN casualties.
- Reporting intelligence data through command channels.
- Ensuring the security of veterinary equipment, supplies, and personnel.
- Using veterinary personnel to support assigned CBRN missions.

b. *Mission-Oriented Protective Posture.* Upon receipt of a CBRN warning, veterinary leaders place contingency plans into operation and direct veterinary personnel to assume the appropriate mission-oriented protective posture (MOPP) level. After assumption of the directed MOPP level, veterinary personnel, within limits dictated by the tactical situation, ensure that actions are taken to protect subsistence items, MWDs, and other GOAs.

c. *Corrective Action.* If subsistence items have not been protected according to CBRN protection plans and procedures, or if the plans/procedures need modification, a recommendation for corrective action is initiated by veterinary personnel.

**5-2. Tasks Performed During a Chemical, Biological, Radiological, or Nuclear Attack**

During a CBRN attack, veterinary personnel remain in MOPP 4. Individual decontamination and first-aid procedures are performed, as required. Veterinary personnel also perform unit CBRN-monitoring tasks and report CBRN information, as required.

### 5-3. Tasks Performed After a Chemical, Biological, Radiological, or Nuclear Attack

a. *Decontamination.* After a CBRN attack, the primary concern is decontamination and treatment of casualties. Veterinary personnel will initiate organic personnel and equipment decontamination procedures.

b. *Evacuation.* Once an area is contaminated with a CBRN agent, personnel may be evacuated from the area. If the area is evacuated, personnel and equipment are decontaminated according to prescribed guidance and assistance of supported unit or organic CBRN decontamination teams. Responsible leaders ensure that the contaminated area is marked with CBRN warning signs. The primary function of the veterinary unit, while it is in the contaminated area, is concentrated on protection and decontamination of organic personnel and equipment, and MWDs. When possible, the mission and duties of the contaminated unit/personnel may be transferred to other operational veterinary units/personnel by the commander.

c. *Testing.* Following a CBRN attack, all subsistence within the boundaries of the contaminated area is considered contaminated and managed accordingly until testing determines which foods are safe for consumption. As a method of control, subsistence items located in contaminated storage facilities/areas are restricted from issue or use until necessary CBRN testing can be completed. Access to subsistence storage facilities/areas will be restricted based on their level of contamination.

d. *Technical Guidance.* In most instances, decontamination of subsistence does not begin until the surrounding area and storage facility are decontaminated. Veterinary teams provide technical guidance on food decontamination procedures to unit decontamination teams.

## Section II. SUBSISTENCE

### 5-4. Concept of Operations for Veterinary Support for Class I

The availability of noncontaminated subsistence/Class I items in an AO depends upon the amount of planning taken for the protection of subsistence from CBRN warfare. An adequate defense posture for a CW attack will also protect food against biological warfare (BW) contamination and radiation fallout.

a. The procedures to protect subsistence items from a CBRN threat must become a part of operations plans (OPLANs) and TSOPs and should be maintained by all units. Each unit incorporates procedures into its readiness plan for the protective storage and security of subsistence items. Procedures for monitoring the results of decontamination of subsistence items are incorporated into the unit TSOPs.

b. Prior to and after initiation of CBRN warfare, command and technical (medical) channels of communication are used to disseminate information pertaining to the use of CBRN-contaminated/exposed subsistence. Veterinary personnel provide information and guidance to unit commanders regarding the storage, protection, decontamination, security, and use of CBRN-contaminated subsistence.

### 5-5. Veterinary Support for Subsistence

Veterinary personnel support commanders in developing readiness plans and TSOPs for the protection, decontamination, and use of subsistence items in the CBRN environment. This assistance is either in the form of direct or indirect veterinary support.

*a.* Direct veterinary support is provided to commanders by assignment of veterinary personnel at Class I activities. This support consists of technical advice to aid the commander in formulating plans and procedures pertaining to the storage, decontamination, and use of subsistence that may become exposed to a CBRN agent.

*b.* Indirect veterinary support is provided to unit commanders by disseminating information and guidance pertaining to CBRN contamination of subsistence.

*c.* Veterinary personnel inspect at the user level on an area support basis.

### 5-6. Subsistence Decontamination

*a.* Command authority decides if subsistence is to be decontaminated. Veterinary personnel provide technical advice to the commander to assist him in making this decision. The commander concerned determines how subsistence is provided to affected units and what actions, if any, are taken to decontaminate supplies. The commander and his staff coordinate priorities for large-scale decontamination operations.

*b.* Decontamination removes the contaminant and provides food that is safe for consumption. Food salvage operations require extensive efforts to assess, identify, and evaluate. These efforts are further compounded if food supplies are suspected of being compromised by CBRN contaminants. Decontamination efforts require even more elaborate procedures that impact labor, time, and supplies of operational forces. The use of appropriate decontamination must be emphasized to fit the situation and the mission. That is, decontaminate just enough to sustain operations and keep fighting, rather than to try and control or create a contamination-free environment. Normally, decontamination efforts will be limited to the scope and nature of the packaging and packing materials. In addition, food decontamination, if deemed necessary, would only occur in critical situations where other food supply options are not available. Most decontamination is performed in or very near the AO. See FM 4-02.7, Appendix J for definitive information on subsistence decontamination including food group priorities and decontamination procedures for particular CBRN agents.

*c.* There are three levels of decontamination for subsistence. These are individual, unit, and support levels. This level is dictated by who has control or responsibility for the item.

(1) *Individual Decontamination.* The individual soldier performs this level of decontamination. Individual decontamination of subsistence is performed by each soldier on those subsistence items in his possession at the time of the attack. This is performed in conjunction with individual/equipment decontamination procedures as soon as possible after a CBRN attack. Individual decontamination of

subsistence is limited to operational rations that are in the original containers that do not permit or have not allowed CBRN penetration. The decision to decontaminate subsistence, however, rests with the individual's commander and not with the individual, except when the soldier is separated from his unit. Decontamination procedures are conducted as outlined in the unit TSOP or as modified by the unit commander. At the individual level, the decontamination procedures are employed to the extent that the CBRN hazard to the subsistence is adequately reduced or eliminated, thus allowing for continuation of the mission.

(2) *Unit Decontamination.* Unit personnel under the supervision of CBRN-trained personnel organic to the unit perform this level of decontamination. Decontamination procedures for subsistence items in possession of the unit are performed as soon as possible after an CBRN attack and in conjunction with area decontamination procedures. Decontamination is attempted only on subsistence items that are in original, intact containers that do not permit or have not allowed CBRN penetration. Decontamination procedures are conducted by unit personnel in accordance with TSOPs and supervised by unit CBRN-trained personnel. Special decontamination requirements and/or advisability of decontamination efforts are relayed to unit commanders through command or medical channels, as required. The decontamination procedures employed are aimed at adequately reducing or eliminating the CBRN hazard presented by the subsistence.

(3) *Support Decontamination.* Specially trained and specially equipped decontamination units/teams accomplish this level of decontamination. The decision to decontaminate subsistence items at this level rests with the commander responsible for supplies. Support decontamination of subsistence is accomplished at major subsistence storage facilities/areas, such as the GS Class I activities in the theater. At the support level, veterinary personnel advise on technical matters pertaining to the decontamination operations involving subsistence items. Veterinary personnel also monitor the decontamination results and recovery operations. They make recommendations if procedures need modification or correction and ensure that decontaminated subsistence is wholesome and suitable for issue. The support decontamination procedures must eliminate or reduce the CBRN hazard presented by subsistence to as low a level as possible.

## 5-7. Evaluation of Chemical, Biological, Radiological, and Nuclear Hazards

*a. Introduction.* Commanders depend upon technical advice, professional guidance, and assessment of the situation provided by veterinary personnel to determine the feasibility and advisability of conducting decontamination operations for subsistence.

*b. Veterinary Assessment.* The veterinary assessment of the situation is formulated using information and data from survey reports supplied by veterinary personnel conducting inspections of subsistence in contaminated areas. These veterinary survey reports are then consolidated with data received from other sources, such as CBRN-monitoring teams; the supporting laboratory; supply; PVNTMED units; and combat, technical, and medical intelligence. Veterinary personnel analyze the collected data to assess the status of the subsistence with emphasis on the following:

- Would consumption of the subsistence present a CBRN hazard to personnel? The degree of risk is linked directly to the type of agent/contaminant and the level of residual contamination in the subsistence (see FM 4-02.7).

- The veterinary assessment requires that the CBRN agent be identified. The dissemination method of the agent also should be determined regarding the form of dispersion (liquid, solid, gas, aerosol, or fallout). The collected data should indicate the degree of penetration of packaging and packing material by the contaminant.

- An analysis of the data obtained from veterinary surveys and information obtained from other sources aid in determining the most effective decontamination method. The practicality of a decontamination method is determined by many factors that must be considered in the analysis. Some of these factors are—

- The requirements for and availability of personnel, equipment, and supplies needed for the decontamination operation. The proposed decontamination method selected should reduce the CBRN hazard of subsistence sufficiently to permit human consumption.

- The method must not create additional hazards to the subsistence item or create additional risks for decontamination personnel.

- The method should be timely in regard to amount of subsistence that can be decontaminated.

- The method should provide a wholesome product suitable for its intended use.

Once subsistence is decontaminated, the items may require special storage or handling procedures to protect them from deterioration or future exposure to CBRN agents. Additional inspections must be conducted after decontamination to ensure subsistence decontamination was successful and that items are safe for consumption. Recouping the decontaminated items into clean packaging materials may be required for protection against future exposure to CBRN agents. Some subsistence items may require upgraded protective storage in an enclosed facility with controlled temperature and/or relative humidity versus storage in an open area protected by barrier covers. The decontamination process may materially reduce the storage life of the subsistence, thus requiring accelerated movement through the supply system. A determination is made as to type of precautionary markings required on subsistence containers. These precautionary markings aid personnel involved in the storage, issue, receipt, and preparation of the subsistence.

## **5-8. Veterinary Survey of Storage Facilities and Subsistence**

*a. Introduction.* Veterinary personnel conduct surveys of CBRN-contaminated subsistence and storage facilities to obtain data for the veterinary assessment of the situation. The designated MOPP level must be adhered to while conducting the surveys. Veterinary personnel use available CBRN-detection equipment for the survey. The survey is conducted, if possible, in conjunction with CBRN detection or survey teams.

### *b. Survey of Storage Facility.*

(1) A preliminary inspection is made to determine the effectiveness of the storage facility and other protective measures in preventing entrance of a CBRN agent into the facility. An inspection of

the structural integrity of the facility is made, checking for such damage as broken windows and holes. The inspector notes any damages and the overall condition of the facility. Other subsistence items will be closely monitored and tested, as needed. Veterinary personnel examine chemical detection tapes for indication of activation by chemical agents. The area surrounding the facility is also examined for the presence of animals, rodents, birds, and insects acting unusual or whose death is unusual or unexplained.

(2) A survey of the storage facility is conducted using CBRN alarms/detectors/monitors to determine the presence of a CBRN agent. The inspection determines if a CBRN agent or residue remains in the facility using the detector paper, tape, and other detection equipment.

(3) Specimens are collected for submission to the supporting laboratory. Recorded symptoms of contaminated soldiers or animals, gross pathology, CBRN equipment readings, and other observations are reported. This information, when combined with histopathology and other medical laboratory tests, aids in identifying the nature, level, and type of CBRN agent.

*c. Survey of Subsistence Items.*

(1) A survey of subsistence items must be conducted to determine the presence of a CBRN agent on or in the item and the extent of damage caused by the contamination. Veterinary personnel select those subsistence items most likely to have been contaminated for testing, see Chapter 3, paragraph 3-7d. The items will be located near entrances, near ventilation inlets, and near aisles.

(2) Packaging materials are tested for the presence of CBRN agents. The presence of unusual liquids or stains is noted. The degree of biological contamination, however, can only be determined by laboratory analysis. Results of the survey of packaging and packing materials are recorded. If a CBRN agent is present, then this information is included in the survey.

*d. Veterinary Chemical, Biological, Radiological, and Nuclear Survey Findings.* At the completion of the initial survey of the storage facility and subsistence by veterinary personnel, the findings are provided to the veterinary leaders. These findings will be as definitive and timely as possible. These survey findings must address the following points:

- Survey method and inspection procedures used to obtain data, to include type of detection equipment used. Data obtained from support units, such as medical laboratory/chemical units, should be included, noting the source of the data.
- Estimate of the quantity of food contaminated or suspected of being contaminated by the CBRN agent. The quantity of contaminated subsistence is reported by the amount in each of the following categories:
  - Individual operational rations (MRE).
  - A-Rations.
  - Unit Group rations-H&S.

- Semiperishable ration components.
- Perishable items.
- Medical diet supplement (not a stand-alone ration; it must be used in combination with the UGR).

- Recommendation as to advisability and feasibility of conducting a decontamination operation. The recommendation should include an estimate of the amount (percent) of contaminated subsistence that can be recovered if decontamination is accomplished.

*e. Decontamination of Subsistence.* Once it has been determined the subsistence is contaminated, commanders will decide if the subsistence will be decontaminated. Information provided by the survey aids the commander in reaching this decision. The responsible veterinary personnel provide technical information regarding the subsistence item/product packaging and packing characteristics, as required. See FM 4-02.7 for additional information on the decontamination of subsistence items.

*f. Disposition of Subsistence.* The responsible veterinary officer has final approval for determining whether decontaminated subsistence is wholesome and is fit for human consumption. Subsistence supplies meeting wholesomeness standards should be identified and returned to a protective posture. Subsistence supplies not meeting the standards set for human consumption will be disposed of as directed by the senior veterinary authority.

### **Section III. TREATMENT OF MILITARY WORKING DOG CHEMICAL AGENT CASUALTIES**

#### **5-9. Classification of Chemical Agents**

Chemical agents are classified by either their physiological action or their military use.

##### *a. Physiological Actions.*

(1) Nerve agents (anticholinesterase) (such as Tabun [GA], Sarin [GB], Soman [GD], [GF], and V-agent [VX]) inhibit the cholinesterase enzymes. The cholinesterase enzymes are responsible for the hydrolysis of acetylcholine, a chemical neurotransmitter. This inhibition creates an accumulation of acetylcholine at a cholinergic synapse that disrupts the normal transmission of nerve impulses. Cholinergic synapses are located—

- In the central nervous system (CNS).
- In the neuromuscular endplates of the peripheral voluntary nervous system.
- At the parasympathetic endings and sympathetic presynaptic ganglia of the autonomic nervous system.



(2) Blister agents (vesicants) include sulfur mustard (H), distilled mustard (HD), and nitrogen mustard (HN), arsenical (lewisite [L]), and phosgene oxime (CX). Blister agents produce pain and injury to the eyes, reddening and burning of the skin, and when inhaled, damage to the mucous membranes and respiratory tract. Mustard may produce major destruction of the epidermal layer of the skin. The blisters that form on human skin are not generally seen on dog skin.

(3) Lung-damaging agents (choking agents) include phosgene (CG), diphosgene (DP), chlorine, and chloropicrin (PS). These agents produce injury to the lungs and irritation of the eyes and the respiratory tract. They may also cause intractable pulmonary edema and predispose to secondary pneumonia.

(4) Blood agents (cyanide compounds) include hydrogen cyanide (AC) and cyanogen chloride (CK). These agents are transported by the blood to all body tissues where the agents block the oxidative processes, preventing tissue cells from utilizing oxygen. The CNS is especially affected and this leads to cessation of respiration followed by cardiovascular collapse.

(5) Incapacitating agents (BZ-type) cause MWD casualties by anticholinergic action. These actions lead to clinical signs similar to atropine toxicity, including dilated pupils and vision problems, elevated heart rate, dry mouth, exercise intolerance, incoordination, and behavioral changes including confusion or reluctance to follow commands. Mild or moderate exposure is generally not fatal due to a wide safety margin but there is increased risk of heat injury.

*b. Military Use.*

(1) Toxic chemical agents produce serious injury or death. They include nerve agents, blister agents, lung-damaging agents (choking agents), and blood agents.

(2) Incapacitating agents produce temporary physical or mental effects, or both.

## **5-10. Chemical Agent Protection**

The information in FM 8-285 (4-02.285) and FM 4-02.7, Appendix G, on human casualties of chemical agents generally applies to all animals. Chemical protective doctrine for animals is incomplete, and there is no chemical protective equipment in the current inventory for MWDs. Equipment and doctrine for animals are under development but pending its availability, any degree of protection of the MWD in a chemical warfare agent environment will, at best, be extremely difficult. The information given herein applies particularly to the MWD, although these principles can be applied to other animals.

*a. Kennel Facility Protection.* In the absence of specific MWD collective protection shelters, the principles of field expedient protection covered in FM 4-02.7, Appendix H, should be followed.

*b. Protection of Military Working Dog Rations and Equipment.* Bagged MWD food and MWD equipment such as leather leashes and collars, and leather or plastic muzzles are subject to contamination and may be difficult to decontaminate or replace in a timely manner. One set of MWD handling equipment

and a short-term supply, 1-4 weeks, of food should be stored in an impervious and easily decontaminated container for each MWD. Tightly sealed plastic cans, NSN 7240-01-094-4305, may be used or these items may be stored in a nearby chemical protective shelter or protected vehicle.

*c. Protective Shelter for the Individual Military Working Dog at the Duty Site.* In the absence of MWD protective garments or shelters it will be difficult to protect a MWD if it cannot be placed in a field expedient protective shelter or in an available collective protection shelter. If chemical attack is likely, the only reliable method of MWD protection is movement from the area. If the MWD must remain on site to perform necessary duty, limited protection may be provided by:

(1) Moving the MWD into an existing structure or vehicle that has been sealed with tape, tarps, or tentage to prevent inflow of contaminated air.

#### NOTE

In some AO the risk of heat injury for an MWD in a sealed vehicle may be higher than the risk of chemical or biologic injury during a potential attack.

(2) Placing the MWD in its transport kennel and covering the kennel with tarps, tent, or plastic sheets to limit contamination by droplet or liquid agent.

(3) Placing the MWD in a chemical protective shelter with the handler and other personnel when space is available. This is the preferred method when possible.

(4) Placing chemical impervious barriers on the MWD's paws if the dog must walk through a contaminated area. It is best that an MWD not be walked through any area with ground contamination but this may be necessary in some circumstances. If this occurs, the following items may provide limited protection if placed over the feet and taped at the carpus or tarsus. None of these items are of a design to be walked on, so the ground contact surface may need to be protected with a more durable material such as tape or canvas over wrap.

(a) Mylar (polyethylene terephthalate) specimen bags.

(b) Outer bag from MRE.

(c) Extra butyl-rubber protective gloves from MOPP garments or Joint Service Lightweight Integrated Suit Technology (JSLIST) gloves.

*d. Pretreatment of MWDs to Limit Chemical Agent Absorption and Toxicity.* There is no specific pre-exposure therapy that has been evaluated in MWDs; however, some of the protective measures for military personnel may be implemented.

(1) Prophylactic medication. The effectiveness of the Soman Nerve Agent Pyridostigmine Pretreatment (SNAPP) tablet is not well-documented in dogs, and the effect of this medication on the performance of MWDs has not been evaluated. The DOD MWD Veterinary Service does not recommend the use of SNAPP in MWDs because its effect on MWD detection performance has not been evaluated; however, the use of SNAPP in the MWD may be authorized by the responsible veterinarian and MWD unit commanders. If SNAPP is used, the handler must evaluate the ability of the MWD to perform in assigned tasks prior to performance of assigned duties. Treated MWDs should be identified as under the influence of the pyridostigmine prior to entry into a contaminated environment and other protective measures should be taken when possible. When used, the recommended SNAPP regimen is 1 tablet (15 milligrams [mg]) every 8 to 12 hours. All precautions regarding SNAPP utilization as delineated in FM 8-285 should be followed in MWDs.

(a) If the MWD on SNAPP is unable to perform its mission due to adverse effects of the medication, the dose and frequency should be reduced. If the performance decrement continues on the reduced dose, the MWD must be removed from duty and from the high risk area, or the SNAPP treatments must be discontinued.

(b) Adverse effects of SNAPP may mimic nerve agent toxicity including: salivation, nausea, vomiting, abdominal cramps and pain, diarrhea, miosis and lacrimation, increased respiratory secretions, weakness, muscle twitching, and respiratory distress. If any of these are seen the dose and frequency of SNAPP must be decreased or the SNAPP must be discontinued.

(2) Skin Exposure Reduction Paste Against Chemical Warfare Agents (SERPACWA). The use of SERPACWA on MWDs may provide protection against cutaneous absorption of chemical agents. When applied to the non-haired portions of the MWD's abdomen, groin, and axillae (armpits), SERPACWA may provide some protection for up to 4 hours. The use of SERPACWA will also ease decontamination when using M291 Skin Decontamination Kit (SDK).

## 5-11. Nerve Agents

a. *Absorption.* Nerve agents dispersed either by aerosol, vapor, or spray can be absorbed through a dog's respiratory tract, eyes, mouth, gastrointestinal tract, and skin. Currently, there is no means of protecting a MWD's respiratory tract. Respiratory absorption may occur after dispersal of aerosol, vapor, or liquid agents and is of greatest concern because of the speed of absorption and toxicity. Absorption of nerve agent through the mouth may occur simultaneously with respiratory exposure. However, oral and gastrointestinal absorption is of greater concern when a dog ingests nerve agent by eating contaminated food, drinking contaminated water, or licking its own fur that is contaminated with a nerve agent. Because of the combination of hair covering and lack of sweat glands, the risk of nerve agent absorption through the skin is of less concern in dogs than in people; however, the risk is still significant. Absorption through the skin via the MWD's paws is of the greatest concern since pads of the MWD's paws have sweat glands, no hair, and will absorb nerve agents.

b. *Protection.* Military working dogs should be protected from direct contamination by liquid and droplets agents, as outlined above (paragraph 5-10). There is no current equipment in the inventory to protect a MWD from inhalation exposure.

c. *Effects on Food and Water.* Liquid nerve agents or vapors of nerve agents can poison food and water. Military working dogs should not be permitted to drink from water holes or trenches in contaminated areas, or to drink surface water that has run off from contaminated areas. Water suspected of being contaminated should be tested by PVNTMED personnel and only water found to be safe should be approved for consumption. Contaminated food or food that is suspected of being contaminated should not be fed to MWDs unless approved by veterinary personnel. Food and water packaged in sealed, airtight cans, bottles, or other impermeable containers can be decontaminated according to provisions of Appendix J, FM 4-02.7.

## 5-12. Signs of Nerve Agent Intoxication in Military Working Dogs

a. All nerve agents generally produce similar effects, although the onset and severity of signs may vary depending upon the route and degree of exposure.

b. Exposure to nerve agent vapors produces local ocular and respiratory effects before other effects. These signs usually appear within 5 minutes after exposure. The initial ocular effect is pupillary constriction (miosis). Respiratory exposure is manifested by a rapid, panting respiration and an increase in upper respiratory secretions resulting in watery nasal discharge. Increased upper respiratory secretions, with bronchoconstriction which may occur shortly afterward, will cause coughing, rattling sounds in the throat, wheezing, and respiratory distress. More severe exposures may cause eye pain and visual impairment.

c. Systemic absorption of enough nerve agent through the respiratory or gastrointestinal system will increase the severity of local effects and will also cause generalized systemic effects. Respiratory distress becomes marked due to profuse bronchial secretions, bronchoconstriction, and airway obstruction. The distressed animal will gasp and the mucous membranes of the mouth will become blue (cyanotic) as a result of decreased oxygenation. Other effects which may occur are slowing of the heart rate, profuse salivation and frothing, loss of fecal and urinary control, and increased peristalsis and abdominal pain. Muscular effects occur with other systemic effects and the animal will exhibit muscular weakness, twitching muscles, and trembling. As weakness and paralysis of the respiratory muscles progress, breathing becomes increasingly labored, shallow, rapid, and finally intermittent, with the animal quickly becoming oxygen-deficient. In severe exposures, the onset and progression of signs are very rapid. The animal may tremble violently, become uncoordinated, collapse, and go into generalized convulsive seizures. Loss of consciousness may ensue with a total loss of reflexes. Convulsions may become intermittent, with the animal showing a rapid panting respiration between convulsive episodes. Marked generalized convulsions are usually followed by complete flaccid paralysis, central respiratory and circulatory depression, asphyxiation, and death.

d. The symptoms of cutaneous exposure to liquid nerve agents are similar to respiratory exposure to nerve agent vapors. One difference is that the initial signs take longer to develop and the transition from mild to severe symptoms may be slower. With fatal cases, the survival period may be hours, whereas in inhalation poisoning most deaths occurs in a few minutes. Cutaneous exposure causes local twitching at the site of contamination, increased gastrointestinal activity, salivation, miosis, generalized tremors, prostration, and convulsions. Dyspnea is not a pronounced symptom of early cutaneous poisoning, which differs from

the inhalation route. Hyponoia occurs during the prolonged convulsive phase. A lethal factor in cutaneous poisoning is the rapid and very considerable rise in body temperature to heatstroke levels caused by the prolonged convulsions.

### 5-13. Nerve Agent Decontamination Procedures

Following contamination of the hair coat, skin, or eyes, the animal should be decontaminated as quickly as possible to prevent or reduce any further absorption of the agent.

#### CAUTION

All persons who handle animals contaminated with nerve agents must be in MOPP 4.

#### a. *Hair and Skin.*

(1) Since the hair coat delays penetration of liquid agents to the skin and cutaneous absorption requires several minutes, effective decontamination of the hair and skin may be carried out before any significant absorption has occurred. Decontamination is not a substitute for treatment. When the animal shows signs of exposure to a nerve agent, specific therapy should be initiated.

(2) The entire animal (except eyes and periocular area) may be decontaminated by using M291 SDK pads and/or with soap and water.

(a) Initial MWD decontamination with the M291 SDK should be completed as soon as after nerve agent exposure as possible. The entire MWD should be wiped down using the M291 pads, except for eyes and the area around the eyes, which should be rinsed with water.

#### NOTE

The MWD handlers should carry several extra M291 SDK or reactive skin decontamination lotion (RSDL) (may replace the M291 SDK) for decontamination of the MWD and an extra M295 Individual Equipment Decontamination Kit (IEDK) for decontamination of MWD equipment.

(b) Definitive decontamination of the MWD should be completed by thoroughly washing the hair coat and the skin with soap (Castile Soap Liquid, National Stock Number 8520015190776

or available nonmedicated veterinary shampoo) and water. It is important that all body surface areas are saturated with the soap and water and gently scrubbed and washed. After the washing is completed, the hair coat and skin should be rinsed and the soap residue removed from the dog. If soap is not available, rinsing with large amounts of water is the next best method of decontamination. The preferred method of decontaminating the MWD is by first using the M291 SDK pads then thoroughly washing and rinsing the MWD to ensure all contaminants are removed.

### CAUTION

Personnel performing the decontamination of the MWD must be careful and prevent any of the SDK pad residue from getting into the MWD's eyes. The decontamination solution could cause injury to the eyes and should not be used on or around the eyes. Ocular contamination should be removed with copious water irrigation of the eyes.

(3) The leash, collar, and muzzle should be removed from the MWD and decontaminated as soon as possible. They may be decontaminated using the M295 IEDK wipe-down mitts or by using a 5 percent hypochlorite solution or with 5 percent sodium carbonate solution (G-agents only). Additional guidance for decontamination of equipment is contained in FM 3-5, Appendix C.

*b. Eyes.* Any amount of liquid nerve agent getting into the eyes of an animal requires prompt action to prevent conjunctival absorption, which can occur very rapidly. The eyes can be decontaminated by irrigation with copious amounts of water until all agents have been removed. Avoid using any components from the M291 SDK in the eyes. Petroleum-based eye ointment must not be placed in the eyes prior to completion of decontamination process as it may absorb and concentrate nerve agent and cause additional eye damage and toxicity. After decontamination is complete, the eyes may be treated with appropriate ointments as noted below.

## 5-14. Treatment of Military Working Dog Casualties of Nerve Agents

### *a. Emergency Therapy Procedures.*

(1) Initial first aid provided by the MWD handler depends on the severity of the poisoning and the type of nerve agent antidote kit that is issued to the MWD handler.

(a) For mildly poisoned MWD, administer two Nerve Agent Antidote Kit, Mark I (two atropine autoinjectors and two 2 PAM Cl autoinjectors) (carried by the MWD handler) a total of 4 injections into the back of the thigh of the dog. The initial dosage of atropine is 4 milligrams and the dosage for 2 PAM Cl is 1200 milligrams. The Mark I is being replaced as supplies are exhausted with the new Antidote

Treatment, Nerve Agent Auto-injector (ATNAA) which has the atropine and 2 Pam Cl in a single injector. If the handler of the MWD is carrying the ATNAA, he injects 2 of the ATNAA into the back of the thigh of the dog which is equal to the four injections from the Mark I kits.

(b) For severely-poisoned MWDs (paragraph 5-12c), administer three additional injections of atropine with one injection of Convulsant Antidote for Nerve Agent (CANA) (diazepam). This is similar to the buddy aid a soldier provides another soldier suffering from severe nerve agent poisoning.

**CAUTION**

The MWDs should not need additional 2 PAM Cl injections.

**NOTE**

Each MWD handler will be issued 2 extra Mark I kits or 2 extra ATNAA plus 5 additional Atropens, and 4 CANA for treatment of the MWD.

(2) Follow up handler first aid for severe nerve agent poisoning.

(a) Single atropine injections of 2 mg are continued every 10 to 20 minutes until the nerve agent effects have subsided or signs of atropinization appear (see paragraph 5-14a(6), below). This is equivalent to combat lifesaver aid for soldiers with severe nerve agent poisoning. The MWD must be monitored for heat stress. The atropine dries the mucous membranes thus preventing the MWD from expelling body heat.

(b) The initial dosage of 2 PAM Cl in the dog is 20 mg/kilogram (kg). Two 2 PAM Cl injectors should be sufficient (see paragraph 5-14a(1), above).

**CAUTION**

As stated above, the initial dosage of 2 PAM Cl in the dog is 20 mg/kg. Two 2 PAM Cl injectors should be sufficient. This is the treatment protocol that is to be adhered to.

(c) If a MWD is still showing signs of seizure after initial treatment (above) and the first dose of CANA, the handler may give up to 3 additional CANA autoinjections at 5-10 minute intervals until seizures are gone.

(3) Maintain a clear airway by removing respiratory secretions and saliva obstructing the airway. Loosen or remove the muzzle.

#### CAUTION

When clearing the MWD airway, the handler and veterinary personnel must use great care to avoid being bitten. Even a minor MWD bite could compromise personnel MOPP status resulting in human nerve agent exposure.

(4) In severe nerve agent exposure, the animal's respiration is markedly depressed and extreme muscular weakness or paralysis is present. In such cases, assisted ventilation is required to effectively resuscitate the animal.

(5) Adequate atropine and 2 PAM Cl should bring about an improvement or restoration of spontaneous respiration and also improve blood circulation. However, the effectiveness of 2 PAM Cl is lost after a short period of time. The 2 PAM Cl varies in its effectiveness against nerve agents. It is least effective against GD nerve agent. If signs of nerve agent poisoning persist or recur, veterinary personnel may need to administer additional 2 PAM Cl every 8-12 hours for up to 3 days.

(6) Signs of effective atropinization include dry mouth and mucous membranes, increased heart rate, and increased body temperature. Signs of excessive atropinization and atropine toxicity may include: vomiting, thirst, difficulty eating, constipation, difficulty urinating, altered mental status which may be either depression or excessive stimulation, ataxia, seizures, decreased breathing rate, increased heart rate with possible arrhythmias, and abnormal blood pressure (decreased with shock and circulatory collapse or increased). Atropine administered systemically may not overcome local ocular effects so that the absence of pupillary dilation does not necessarily indicate the need for further atropine administration. Canine nerve agent casualties can tolerate much greater doses of atropine than would a normal dog that has not been exposed to a nerve agent. However, repeated doses of atropine will markedly increase its effects, especially in animals that have received only a minimal exposure.

#### *b. Supportive Therapy Procedures.*

(1) Maintain a clear, unobstructed airway. Assisted ventilation may be required.

(2) Complete decontamination if not already performed.



- (3) Provide supportive treatment, as indicated.

#### NOTE

As previously stated, atropine is usually sufficient to control CNS signs, but if convulsions persist or occur intermittently and further interfere with respiration, they may be controlled by the administration of CANA intramuscularly.

### 5-15. Incapacitating Agents (BZ Type)

*a. Absorption and Protection.* Significant absorption of BZ, an incapacitating agent, is most likely to occur through the animal's respiratory tract, but effective percutaneous and gastrointestinal absorption can occur. The protective measures for nerve agent poisoning can be applied to incapacitating agents.

*b. Signs of Intoxication.*

(1) The incapacitating agent BZ is an anticholinergic agent with pharmacological effects similar to those of atropine, although it has a greater effect on the CNS than atropine. The onset of signs following a moderate respiratory exposure can be expected to occur within 10 to 20 minutes. In general, the greater the dose, the shorter the time for the onset of symptoms.

(2) In the MWD, early effects of moderate exposures to BZ include increased heart rate, pupillary dilation, impaired vision, dry mouth, and a decrease in physical endurance while working. Marked rises in body temperature do not usually occur. The agent's predominant effects are on the CNS, resulting in incoordination, behavioral changes, confusion, and a lack of normal responses to commands. These exposures can be expected to incapacitate animals and make them unfit for service.

(3) There is a large margin of safety between incapacitating and lethal exposures to BZ. Overwhelming exposures, however, can result in prostration and convulsions, with death occurring rapidly. Moderate exposures may cause altered mental status, failure of the MWD to follow commands, and spontaneous aggressive behavior.

*c. Treatment.*

(1) After a MWD has had a moderate exposure to BZ, effects may persist 24 hours or more. Although the MWD's life is not immediately threatened, therapy can be administered to hasten recovery and return the animal to duty as quickly as possible. However, the MWD should be examined and its work performance evaluated before it is returned to duty.

(2) General therapy for BZ exposure should include decontaminating the hair and the skin with warm soapy water, restricting activity, and keeping drinking water available.

(3) Physostigmine salicylate (0.02-0.025 mg/kg) 1-1.5 mg per MWD is given by slow intravenous or intramuscular injections. Repeated doses of physostigmine can be given at intervals of 1-2 hours until effective, then redosed every 2-4 hours if signs of BZ exposure persist or recur. Continuous therapy may not be necessary since the effects of the exposure gradually disappear. If continuous administration is required, it should be carried out at reduced dosage levels to avoid an overdose of physostigmine. The signs of physostigmine overdose include pupillary constriction, muscle weakness, twitching, vomiting, diarrhea, respiratory distress, slowed heart rate, and convulsions. If toxicity is noted, further administration of physostigmine should be discontinued and one atropine injector should be given intramuscularly to control severe effects of overdose.

(4) Anesthetics, tranquilizers, and sedatives tend to potentiate the effects of incapacitating agents and are contraindicated in the treatment of MWDs exposed to BZ.

#### 5-16. Blister Agents

The terms *blister agent* or *vesicant* are misnomers when applied to MWDs since vesiculation (blistering) generally does not occur in dogs or in most other animal species. Despite the lack of blistering, these agents do injure any part of the body they contact. The preventive measures used for nerve agents can also be used for blister agents. If a MWD must transit a contaminated area it is best if it is placed in the transport kennel and carried. If a MWD must walk through a contaminated area, its paws should be protected to prevent the blister agent from reaching the skin (see paragraph 5-10c(4) above). The effects of specific blister agents and their treatment and decontamination procedures are described in paragraphs 5-17 through 5-19, below.

#### 5-17. Distilled Mustard

Distilled mustard (HD) is a colorless to a dark brown oily liquid with a garlic-like odor. It is used as a delayed-action casualty agent. The persistency depends upon the munitions used and the weather. Although HD is not persistent at high temperatures (100-120°F), mustard vapor becomes a major hazard. In addition, with an increase in temperature (90°F) and humidity, there is a marked decrease in the effective dosage. Also, wet skin absorbs more mustard than dry skin.

##### a. Effects.

(1) Liquid mustard or mustard vapors produce delayed effects on the skin and eyes following exposure. The long hair of dogs does not prevent injury to the skin, but it does impede the penetration of liquids and vapors.

(2) Contamination of the skin is followed by a latent period, which varies in length with the degree of exposure. Within 1 hour after exposure, piloerection (erection of the hair) occurs at the site of exposure and may last for an hour or more. Two to three hours after that, redness and edema of the skin develop, increasing in intensity for 24 hours and then subsiding. In mild exposures, edema is followed by exfoliation of the epidermis of the skin. Severe exposures form ulcerated lesions. The lesions heal if secondary infection can be prevented or treated adequately. The skin of the abdomen, axilla, face, and feet

are more susceptible to damage from HD and this sensitivity is not directly related to the length of hair protecting the rest of the MWD's body.

(3) The eye is most sensitive to mustard's corrosive effects. Liquid mustard or heavy vapor exposures can be extremely damaging to the entire eye. Mild ocular exposures are followed by conjunctivitis and conjunctival edema, usually appearing within 1 or 2 hours, edema of the eyelids, corneal opacity and inflammation of the cornea, corneal roughening, and pain. More severe exposures can produce more serious lesions, resulting in necrotic conjunctivitis, corneal erosions or deep ulcerations, deep ophthalmic inflammation, and permanent corneal opacification due to scarring. These lesions predispose the eye to secondary bacterial infections.

(4) Mild to severe exposures to mustard vapor damage the respiratory tract. Inhalation of blister agent vapors will produce sloughing and ulceration of the tracheobronchial mucosa first. Profuse inflammatory exudation and edema may cause respiratory distress. More severe exposures produce involvement of the lung tissue, pulmonary edema, and acute pulmonary alveolar emphysema, and may become complicated by secondary purulent bronchopneumonia. The effects of respiratory exposures tend to develop over several days. The signs of respiratory involvement include cough, nasal discharge, respiratory difficulty, fever, and tracheal and pulmonary rales.

(5) Ingestion of contaminated food and water or the licking of contaminated body areas may produce ulceration of the alimentary mucous membranes, resulting in oral ulceration, abdominal pain, vomiting, bloody diarrhea, and prostration.

(6) Systemic absorption of mustard can result from extremely high skin or respiratory exposures, or from absorption of the agent from the intestines. It may produce systemic effects involving the CNS, cardiovascular system, and hematopoietic system. The possibility of severe leukopenia and susceptibility to infection also exists. These effects are manifested by excitation, salivation, slowed heart rate, decreased count of white blood cells and platelets, bloody diarrhea, and shock.

*b.* Decontamination.

(1) All persons who receive and handle contaminated MWDs must be in MOPP 4.

(2) Because of the insidious action of mustard vesicants (where effects are not immediately apparent), decontamination may not be entirely effective. Yet, it is essential to decontaminate MWDs promptly after exposure to prevent more serious injuries and to mitigate the effects of exposure where possible. Decontamination should be carried out within the first minute or two after contamination with vesicants to prevent injury and before treatment is begun.

**CAUTION**

Decontamination should be accomplished as soon as possible to prevent contamination of handlers and treatment area.

(3) Before redness and edema appear, localized areas of the skin can be decontaminated by using the M291 SDK as described in FM 8-285 and washing the MWD with soap and water as described above. Collars, muzzles, and leashes are also decontaminated by using the M295 IEDK wipe-down mitt or by using a 5 percent hypochlorite solution.

(4) The eyes must be decontaminated by copious water irrigation immediately after exposure. The M291 SDK should not be used in or around the eyes as it may cause additional ocular injury. Ophthalmic ointments should not be applied to the eye until decontamination is completed as they may absorb mustard agents and prolong corneal exposure thus increasing eye injury.

*c. Treatment.* The treatment for either local or systemic effects of mustard blister agents is primarily symptomatic and similar to the treatment described in FM 8-285 for human casualties. Specific systemic and/or topical antibiotic therapy should be administered when indicated. Supportive therapy may be required to maintain the animal's nutritive and fluid status. With eye injuries, the degree of corneal damage should be determined with fluorescein stain and treated accordingly with antibiotic or antibiotic-steroid ointments. The possibility of leukopenia, lung damage, sepsis, or others injuries may also exist.

## 5-18. Nitrogen Mustards

Nitrogen mustard (HN) is a colorless liquid when pure with a faint fishy or soapy odor. It is used as a delayed-action casualty agent that has a delay of hours or more before human skin-damaging symptoms are felt. The eyes are very susceptible to low concentrations of HN, while a high concentration is required to significantly damage the skin or respiratory tract insofar as single exposure is concerned. Liquid and vapor exposures to HN are less damaging to the skin of MWDs than are equal concentrations of mustard or arsenical blister agents. Exposures of the eye to HN, however, produce more serious lesions than HD exposures do. The respiratory, gastrointestinal, and systemic effects of HN are similar to those effects caused by HD. Decontamination and therapy for HN are similar to those for HD.

## 5-19. Arsenical Vesicant Agents

*a. Effects.* Arsenical vesicant agents, generally called L, are more damaging as liquids than as vapors. Exposure to liquid arsenical blister agents is immediately painful, and the exposed MWD becomes very restless. Lesions produced by these agents are more severe and develop faster than those produced by mustard. Liquid arsenicals on the skin and their inhaled vapors are readily absorbed into the systemic circulation, producing signs of arsenic poisoning manifested by restlessness, vomiting, bloody diarrhea, shock, weakness, anemia, and pulmonary edema.

*b. Decontamination.* Procedures for decontamination are the same as those applied for mustard (paragraph 5-17b).

*c. Treatment.* The treatment protocol provided below is based on the availability of British antilewisite (BAL) ointment and BAL injectable (dimercaprol) that are not currently in the chemical agent

patient treatment set but efforts are underway to procure these items for future sets. If available, the treatment protocols for the ointment and the BAL injectable are provided below.

(1) The treatment of lesions induced by arsenical blister agents is similar to that for other blister agents. To treat localized skin exposures, BAL ointment can be rubbed into the contaminated areas, allowed to remain 5 minutes, and then washed off. Any other protective ointment on the skin must be removed before application of BAL ointment. When BAL ointment is applied, it will penetrate and neutralize arsenical blister agents.

(2) Systemic treatment for arsenical blister agents is indicated when there is extensive skin exposure which has not been decontaminated within 15 minutes, when a very rapid onset of effects follows exposure, or when systemic signs of arsenic poisoning appear. Systemic therapy consists of the administration of BAL injectable (dimercaprol) at 2.5 to 5.0 mg per kg by intramuscular (IM) injection. Dosage can be repeated every 4 hours for 2 days and then two times per day for the next 10 days or until recovery is apparent. Supportive therapy should also be administered, as indicated.

#### **5-20. Lung-Damaging Agents (Choking Agents)**

Chemical agents that primarily cause pulmonary edema by attacking lung tissue have traditionally been classified as lung-damaging agents (choking agents), or pulmonary edematogenic agents. They include CG, DP, chlorine, and PS. Best known of these agents is CG. The effects of CG in MWDs are similar to its effects in humans. One difference is cyanosis (which is so prominent in human casualties of phosgene) is masked in MWDs. For exposed MWDs, extreme exertion is dangerous, especially when pulmonary edema develops. Military working dogs in shock should be kept comfortably warm and given oxygen, if available. If pneumonia develops, treatment with antibiotics is indicated.

#### **5-21. Irritant Agents**

Under field conditions, the irritant agents bromobenzyl cyanide (CA), chloroacetophenone (CN), and o-chlorobenzylidene malononitrile (CS) have little effect on MWDs. O-chlorobenzylidene malononitrile may cause increased respiration and hyperactivity. Liquid or solid agents in direct contact with the eyes will cause severe irritation; the eyes should, therefore, be flushed with saline or water. For skin decontamination, a 0.25 percent solution of sodium sulfite is more effective than saline or water in dissolving and neutralizing the irritant agent and should be used if available.

#### **5-22. Smoke and Incendiary Agents**

a. *White Phosphorus.* Burning particles of white phosphorus (WP) cause deep burns on contact with the skin. The smoke is generally not toxic. Since WP burns spontaneously when exposed to air, oxygen must be excluded to stop the burning. This may be done by submerging the burn or wound in water or by covering it with a water-soaked dressing. At the earliest opportunity, all WP should be removed from the skin as follows: bathe the affected part in a bicarbonate solution to neutralize phosphoric acid, which

then allows removal of visible WP. Remaining fragments will be observed in dark surroundings as luminescent spots. The burn should be debrided promptly if the MWD's condition will permit, to remove bits of phosphorus which might be absorbed later and possibly produce systemic poisoning. An ointment with an oily base should not be applied until it is certain that all phosphorus has been removed. Further treatment should be carried out as for thermal burns. Treatment with ultraviolet light is both palliative and therapeutic. If the eyes are affected, treatment should initially be commenced by irrigation, using water or saline. The lids must be separated and a local anesthetic instilled to aid in the removal of all imbedded particles. In eyes with severe ulceration, atropine ophthalmic ointment should be instilled once all particles have been removed.

b. *Sulfur Trioxide-Chlorosulfonic Acid Solution (FS), Titanium Tetrachloride (FM), and a Chemical Mixture (HC).* Field concentrations of these agents usually are not harmful to MWDs, but the liquid may cause burns on the skin and in the eyes. After the eyes are irrigated, they are treated the same as for thermal burns.

### 5-23. Cyanide Compounds (Blood Agents)

Cyanide compounds (blood agents) affect bodily functions by inactivating the cytochrome oxidase system; this poisoning prevents cell respiration and the normal transfer of oxygen from the blood to body tissues. Hydrogen cyanide and CK are the important agents in this group. Cyanogen agents are highly volatile and, therefore, nonpersistent even at very low temperatures. Exposure at high concentrations cause effects within seconds and death within minutes in unprotected personnel and MWDs. Cyanogen chloride also produces central and peripheral pulmonary effects on the respiratory tract because of its chlorine component.

a. *General.* These agents produce toxic effects after absorption. Inhalation is the usual route of entry. Artillery shells, mortar rounds, rockets, a sprayer mounted on aircraft, or bombs can disperse these agents.

b. *Effects and Treatment.*

(1) Hydrogen cyanide causes asphyxiation of the tissues, especially the respiratory center of the CNS. In addition to cyanide effects, CK causes marked local irritant effects on the respiratory system that can lead to pulmonary edema.

(2) Treatment is difficult under field conditions. It should consist of oxygen therapy under positive pressure ventilation and injections of antidote medications.

(a) Initial treatment for MWDs under 85 pounds is intravenous (IV) injection of one sodium nitrite 10-milliliter (ml) (3 percent) ampule containing 300 milligrams (mg) of sodium nitrite, followed by one 50-ml (25 percent) ampule containing 12.5 gram of sodium thiosulfate IV. MWDs over 85 pounds should receive an initial dose of two ampules of sodium nitrite, total 600 mg, and two ampules of sodium thiosulfate, total 25 grams. Sodium nitrite and sodium thiosulfate must be administered IV slowly (over 3-5 minutes).

(b) If signs of intoxication continue additional medication may be needed. A small amount of venous blood should be examined visually. If the blood is chocolate brown, give an additional injection of sodium thiosulfate at one-half the initial dose quantity. If the venous blood is red, give additional injections of both sodium nitrite and sodium thiosulfate at one-half the initial dose quantity.

#### NOTE

The initial dosage of sodium nitrite is approximately 4-7 mg/pound IV, followed immediately by sodium thiosulfate at approximately 150 to 300 mg/pound. If additional treatment is required, check the blood for methemoglobin (chocolate-brown color). If the blood is not brown, give sodium nitrite and sodium thiosulfate at one-half the initial dose. If the blood is brown, give only sodium thiosulfate at one-half the initial dose, since there should be sufficient methemoglobin present from the original dose of sodium nitrite.

#### 5-24. Biological Warfare Agents

a. Disease produced by the offensive use of BW agents against US forces could be lethal and/or disabling. These BW agents could also infect the animal population within the contaminated area; however, most of the diseases that are likely to be used in BW are unlikely to cause illness in MWDs. This is primarily due to varied species susceptibility between dogs and humans for most BW agents. For definitive information on BW agents, see FM 8-284.

b. The veterinary medical response to the threat or use of biological weapons may be different depending on whether veterinary medical measures are employed prior to exposure, or whether exposure has already occurred and/or symptoms are present. If provided before exposure, active immunization or prophylaxis with antibiotics may prevent illness in those MWDs that are exposed. Active immunization may be effective against several potential BW agents, in man, but there are no approved canine immunizations for likely BW agents. The best modality for future protection of MWDs against a wide variety of biological threats is use of prophylactic antibiotics and appropriate decontamination procedures. Of the diseases considered to be likely BW agents, MWDs are likely to be susceptible to only plague (*Yersinia Pestis*), tularemia, brucellosis, Q-fever, and anthrax. In all of these diseases the MWD is believed to be less susceptible than man. The DOD MWD Veterinary Service currently recommends that all MWDs deployed to areas with high risk of natural tickborne rickettsial disease be placed on prophylactic doxycycline at 6 mg/kg/day. Doxycycline is generally considered efficacious against each of the diseases of concern and this prophylactic dose may provide additional protection for MWDs against BW agents. Decontamination should be completed with soap and water as previously described. Military working dog equipment should be decontaminated with 5.0 percent hypochlorite solution, or according to FM 3-5.

**NOTE**

Doxycycline at 6 mg/kg/day is routinely prescribed for MWDs to help prevent natural tickborne rickettsial infections. It may also provide additional protection for MWDs against likely BW agents.

**5-25. Nuclear and Radiological Weapons**

*a.* A proliferation of CBRN capabilities beyond the lines of the major powers has increased the likelihood of CBRN use in a conflict. The number of Third World countries seeking the technology for nuclear weapons and advanced surface-to-surface missiles has increased. Many Third World or developing nations have current or near-term access to the materiel needed to produce nuclear weapons. With current trends in nuclear proliferation, the nuclear threat now and in the future will be global. The proliferation of nuclear-capable nations in all contingency regions increases the likelihood of US forces being targets of nuclear attack.

*b.* If US forces are attacked with nuclear weapons, MWDs will present the same types of medical problems as seen with human patients. These medical problems will include blast, thermal, and radiation injuries and radiation sickness depending on the amount of radiation received. Veterinary care will be based upon the clinical condition of the MWD and its prognosis for recovery. For definitive information on the medical effects of nuclear weapons, diagnosis, treatment, and prognosis, see FM 4-02.283.



## APPENDIX A

**FORMAT FOR THE VETERINARY ESTIMATE**

(Classification)

**VETERINARY ESTIMATE OF THE SITUATION**

Headquarters  
Place  
Date, time, and zone

**References:** *Maps, overlays, charts, or other documents required to understand the plan. Reference to a map will include the map series number and country or geographic area, if required; sheet number and name, if required; edition; and scale.*

**1. MISSION** (Statement of the specific veterinary support mission.)

**2. SITUATION AND CONSIDERATIONS**

*a. Enemy Forces.* (Enemy disposition, composition, strength, capabilities, and COA as they affect veterinary services.)

- (1) Status of enemy rations and food supply.
- (2) State the presence, extent, and status of the threat concerning enzootic and zoonotic diseases.
- (3) Capabilities that affect the ability of the veterinary units to accomplish their mission.

*b. Friendly Situation.*

(1) Size and posture of Class I supply system. Although other units of the command are responsible for processing food and water, appropriate veterinary services or PVNTMED detachments are responsible for food safety, food security, and quality of rations.

(2) Type of rations to be used will include MRE and UGR. The UGR require Medical Diet Supplements at Level III medical treatment facilities.

- (3) Status of Class I supplies.
- (4) Strength and disposition of animals, if applicable.
- (5) Status of Class VIII and other veterinary supplies.

(Classification)

(Classification)

(6) Military significant endemic diseases of animal and public health importance.

(7) Number and extent of civic action programs. The civil affairs staff provide liaison with indigenous health professionals and organizations for conducting civil-military operations (CMO).

(8) Status of veterinary service personnel. Veterinary service personnel are responsible for advising all DOD theater logistics units on storing subsistence to prevent CBRN contamination of rations and, when necessary, on decontaminating rations to ensure food safety.

c. *Characteristics of the Area of Operations.* (Factors that affect the veterinary mission and veterinary support.)

(1) Terrain.

(2) Weather and climate.

(3) Animal population (health, types, disposition [domestic and wildlife]). (Veterinary units can evaluate the local crops and animals for availability and suitability as fresh food sources. As a TO expands and matures, more fresh food will be needed to support US forces.)

(4) Civilian population.

(5) Flora.

(6) Zoonotic and enzootic disease(s) posing a serious threat to the health of the command, GOAs or the local population and its agricultural economy.

(7) Local food supply systems. (Also included are requirements to inspect subsistence items intended for dislocated civilians and enemy prisoners of war to prevent foodborne diseases. This will limit the impact these populations have on Army Medical Department resources.)

(8) Water. (Sources of approved water supplies. If approved supplies are not available, request PVNTMED assistance.)

(9) Location, quantity, and quality of indigenous veterinary services.

(10) Nuclear, biological, chemical, and directed-energy weapons.

(11) Animal diseases having a disruptive impact on the economy.

(12) Logistical support (transportation and resupply).

(Classification)

(Classification)

(13) Other.

d. *Strengths to be Supported.* (Normally a table to include food inspection support and animal support.) See Table A-1 for an example of a veterinary support matrix.

Table A-1. Example Veterinary Support Matrix

| VETERINARY SUPPORT MATRIX |             |                  |           |      |               |                   |     |              |            |             |
|---------------------------|-------------|------------------|-----------|------|---------------|-------------------|-----|--------------|------------|-------------|
| SUPPORTED UNIT/ELEMENT    |             | FOOD INSPECTION* |           |      |               | ANIMAL MEDICINE** |     |              |            |             |
| TYPE                      | POP-ULATION | MRE              | A-RATIONS | UGRs | BOTTLED WATER | MWD               | GOA | MASCOTS/PETS | LIVE-STOCK | VET PVNTMED |
| ARMY                      |             |                  |           |      |               |                   |     |              |            |             |
| USAF                      |             |                  |           |      |               |                   |     |              |            |             |
| USN                       |             |                  |           |      |               |                   |     |              |            |             |
| USMC                      |             |                  |           |      |               |                   |     |              |            |             |
| USCG                      |             |                  |           |      |               |                   |     |              |            |             |
| ALLIED                    |             |                  |           |      |               |                   |     |              |            |             |
| COALITION                 |             |                  |           |      |               |                   |     |              |            |             |
| HOST NATION               |             |                  |           |      |               |                   |     |              |            |             |
| DOD CIVILIANS             |             |                  |           |      |               |                   |     |              |            |             |
| DOD CONTRACTORS           |             |                  |           |      |               |                   |     |              |            |             |
| ENEMY PRISONERS OF WAR    |             |                  |           |      |               |                   |     |              |            |             |
| RETAINED/ DETAINED        |             |                  |           |      |               |                   |     |              |            |             |
| OTHER                     |             |                  |           |      |               |                   |     |              |            |             |

\* Number of Sources and/or Quantity

\*\* Population Served

**NOTE**

If this is a NEO consider the following: Is there a pet evacuation plan in place? Has the Department of State authorized pets to accompany NEO evacuees? Are any animals prohibited from US entry by the USDA? What will be done with pets brought to evacuation control that cannot be evacuated?

(Classification)

(Classification)

*e. Health of Animals in the Command.*

- (1) Origin of animals.
- (2) Presence of disease.
- (3) Status of immunizations.
- (4) Status of diagnostic tests.
- (5) Status of nutrition.
- (6) Care and management.
- (7) Fatigue.

*f. Assumptions.*

*g. Special Factors.*

*h. Definitions.*

**3. ANALYSIS**

*a. Veterinary Service Personnel Estimate.*

- (1) Distribution of Class I installations.
- (2) Distribution of subsistence (perishable and nonperishable).
- (3) Extent of local procurement.
- (4) Extent of inspection load of indigenous foods for indigenous personnel, if applicable.
- (5) Estimate of animal casualties, if applicable.
- (6) Evacuation of animal casualties, if applicable.

(7) Modes of transport of subsistence (air [fixed wing and rotary wing aircraft] or surface [sea, highways, and rail]).

(Classification)

(Classification)

(8) Routes.

(9) Schedules.

*b. Veterinary Support Requirements.*

(1) Food inspection.

(2) Veterinary PVNTMED and veterinary public health.

(3) Veterinary supply/Class VIII.

(4) Veterinary treatment facilities.

(5) Evacuation policy of MWDs, other GOAs, and authorized POAs.

(6) Other (humanitarian civic action programs).

*c. Veterinary Resources Available.*

(1) Organic veterinary personnel.

(2) Attached veterinary units.

(3) Supporting veterinary units.

(4) Veterinary personnel in CA units and Special Forces groups. Host-nation and medical personnel and supplies reported by CA as available from civil public health agencies must also be listed. Cultural differences can impact on veterinary support. Civil affairs personnel assist in planning in order to maximize HN support. They also assist in carrying out HN agreements.

(5) Staff veterinarian in MEDCOM and MEDBDE.

(6) Area medical laboratories.

(7) The veterinary troop ceiling.

(8) Status of veterinary supply/resupply.

*d. Courses of Action.* (As a result of the above considerations and analysis, determine and list all logical COA which will support the commander's OPLAN and accomplish the FHP mission. Consider all

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TSOPs, policies, and procedures in effect. Courses of action are expressed in terms of who, what, when, where, how, and why.)

#### **4. EVALUATION AND COMPARISON OF COURSES OF ACTION**

*a.* Determine the probable outcome of each COA listed in paragraph 3 when opposed by each significant difficulty identified. This may be done in two steps:

(1) Determine and state those anticipated difficulties or difficulty patterns that will have an equal effect on the COA listed.

(2) Evaluate each COA against each significant difficulty or difficulty pattern to determine strengths and weaknesses inherent in each COA.

*b.* Compare all COA in terms of significant advantages and disadvantages, or in terms of the major considerations that emerged during the above evaluation. Decide which COA promises to be most successful in accomplishing the mission.

#### **5. CONCLUSIONS**

*a.* Indicate whether the mission set forth in paragraph 1 can (cannot) be supported.

*b.* Indicate which COA can best be supported from the veterinary standpoint.

*c.* Indicate disadvantages of nonselected COA.

*d.* List the deficiencies in the preferred COA that must be brought to the attention of the commander.

/s/  
Veterinarian

Annexes (as required)  
DISTRIBUTION:

(Classification)

## APPENDIX B

**ARMY OF EXCELLENCE  
L-SERIES TABLE OF ORGANIZATION AND EQUIPMENT  
VETERINARY SUPPORT IN MILITARY OPERATIONS****Section I. MISSION****B-1. Veterinary Mission Statement**

Execute veterinary service support essential for FHP and to project and sustain a healthy and medically protected force; train, equip, and deploy the veterinary force; and promote the health of the military family. This is accomplished by the following functions:

- Food safety, food security, and quality assurance (see Chapters 1 and 3).
- Veterinary medical care (see Chapters 1, 3, and Appendix D).
- Veterinary PVNTMED (see Chapter 1).

**B-2. Veterinary Support**

- a. Same as paragraph 1-2a.
- b. Medical detachment, veterinary service, provides veterinary support in an AO. These detachments are assigned to a MEDBDE, or a MDVS (headquarters).
- c. As the mission requires, veterinary personnel may be attached to military C2 units or civilian management elements to provide veterinary support in stability operations and support operations (see Chapter 4).

**Section II. OPERATIONS CONCEPT****B-3. Veterinary Concept of Operations**

Veterinary services function in three broad categories. These categories include:

- Food safety, food security, and quality assurance of food.
  - Animal medicine.
  - Veterinary PVNTMED.
- a. *Food Safety, Food Security, and Quality Assurance Services.* Medical detachments, veterinary service provide food safety/quality assurance services and advise on food security measures. This support

is a primary means for preventing DNBI to US forces. Medical detachments, veterinary services provide food safety/quality assurance services as a primary means for preventing foodborne illnesses in US forces in an AO. Services include sanitary inspection and approval of food sources in support of Class A-Rations and surveillance inspections of food storage facilities. Procurement and surveillance inspections of all subsistence for wholesomeness and quality assurance is an ongoing mission. Surveillance inspections of any subsistence items suspected of CBRN contamination are performed upon request. Finally, the responsible detachment prepares, publishes, and distributes an annex to the *Worldwide Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement* in the AO. See Chapter 3 for additional information on food safety and security measures.

b. *Animal Medicine Services.* Levels I and II veterinary medical care for MWDs is provided by MDVS (large) and MDVS (small). Levels I and II veterinary care for MWDs includes emergency treatment, stabilization, and evacuation. Limited Level I and II care may be provided to other GOAs and indigenous animals. Level III veterinary medical care is provided by MDVM. Level III veterinary medical care is definitive and comprehensive (complete care). Level III veterinary medical care is provided to units with MWDs. Limited Level III care may be provided to other GOAs and indigenous animals. The levels of veterinary medical care and the types of veterinary detachments deployed to an AO are METT-TC driven. At all levels of veterinary medical care, surveillance, prevention, and control programs for diseases common to both animal and man are implemented. The veterinary staff officer provides advice and guidance to the medical commander pertaining to these threats.

c. *Veterinary Preventive Medicine* (see Chapter 1).

d. *Employment and Deployment.* Veterinary units are designed with the flexibility and mobility to deploy numerous teams or individuals to accomplish diverse and decentralized food inspection support operations, or to consolidate to meet requirements of a larger support operation. The size of the supporting veterinary unit is dependent upon the total number of DOD military personnel being supported (see Appendix A). The squads organic to the MDVS, are 100 percent mobile. They serve in general support to TSC and corps level (CSGs rear and forward) Class I logistics units.

(1) Normally, a MDVS (small) or a veterinary squad from the MDVS is the first veterinary asset deployed into an AO, arriving with the initial task force. This unit ensures food wholesomeness, safety, hygiene standards of all operational rations, CBRN subsistence surveillance, and public health standards of any local food and commercially bottled water procurement according to the HSS plan.

(2) As the AO matures, additional veterinary squads and the headquarters element from the MDVS arrives to support the increased food inspection requirements for all military services.

(3) Veterinary squads are located initially at the developing ports and supply depots such as the GSUs located along MSRs. This placement allows the MDVS (small) to push forward to support corps assets in the division rear area. For example, the MDVS (small) supports the CSG (forward) as it is supplying Class I to the division.

(4) All veterinary squads are capable of providing Level I animal health care on an area basis. These squads may attach their enlisted animal health care specialists directly to a deployed USAF



unit to provide on-site health care to MWDs in the AO. At EAC/division, Level III animal health care is provided by a MDVM. This unit is usually located near a major USAF base to facilitate the receipt, treatment, or evacuation of injured MWDs in the AO and has the capability for deploying a team into high animal casualty areas for short periods.

(5) In the corps AO, C2 of all veterinary assets is provided by the senior veterinary commander. Technical guidance and AO policy is developed and dictated by the MEDBDE veterinarian.

#### **B-4. Veterinary Personnel and the Geneva Conventions**

See paragraph 1-4.

### **Section III. VETERINARY UNITS**

#### **B-5. Medical Detachment, Veterinary Service (Headquarters), TOE 08409L000**

*a. Mission.* The MDVS (headquarters) provides C2, administrative assistance, and technical guidance to assigned and attached veterinary units in the TO.

*b. Assignment and Basis of Allocation.* The MDVS (headquarters) is assigned to a MEDBDE (corps), TOE 08422L010, or MEDBDE, communications zone (COMMZ), TOE 08422L200. This detachment is allocated on the basis of one per 4 to 11 veterinary service and veterinary medical detachments.

*c. Capabilities.* The MDVS (headquarters) provides C2 for 4 to 11 separate veterinary service, veterinary medicine, or veterinary service (small) units in any combination for all functions within an AO. It also implements the veterinary policies established by the MEDCOM. It may be used to augment the MEDCOM or the MEDBDE when veterinary staff services are required. The detachment commander may serve concurrently as the EAC, MEDBDE, or MEDCOM staff veterinary officer. This unit establishes communications and—

- Monitors and evaluates selected public health conditions, zoonotic disease surveillance, and food safety data, to include those food and food-producing animals exposed to CBRN agents.
- Briefs the MEDCOM/brigade commander of those factors posing a potential threat to the overall HSS mission.
- Directs the coordination for the inspection of commercial food sources in support of DOD, federal, and allied procurement organizations.
- Publishes and distributes an annex for the AO to the Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement.

- Coordinates with military units resourced with GOAs, HN and allied forces public health officials, and the State Department.

*d. Concept of Operations.* A MDVS (headquarters) is required in a multicorps deployment or if 4 to 11 veterinary detachments are deployed in the EAC. The veterinary headquarters detachment may be assigned to the corps MEDBDE or to EAC MEDBDE. When the veterinary detachment is assigned to the EAC MEDBDE, and a headquarters detachment is not assigned to the corps, C2 for veterinary detachments in the corps AO will be provided by the senior command MDVS. An example of a MDVS (headquarters), with attached medical detachments (veterinary service, veterinary service [small], and veterinary medicine) is diagrammed in Figure B-1.

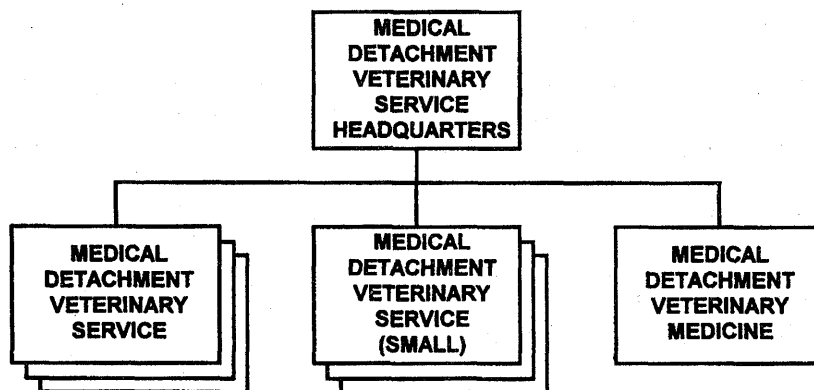


Figure B-1. Veterinary headquarters and units.

#### B-6. Medical Detachment, Veterinary Service (Large), TOE 08417L000

*a. Mission.* The MDVS provides veterinary services for all branches of the Services throughout the AO.

*b. Assignment and Basis of Allocation.* In the corps, the MDVS is assigned to the MEDBDE. At EAC, this detachment may be assigned to a MEDBDE or MDVS (headquarters). The MDVS basis of allocation is one per every 70,000 troops supported in the combat zone (CZ) and one per every 140,000 supported in the COMMZ. Also, one MDVS is allocated for every 140,000 Navy, Marine, and Air Force personnel supported.

- c. Capabilities.* The MDVS possesses the capabilities that allow the detachment to—
- Command and control up to three additional veterinary units in its assigned AO.
  - Provide Levels I and II veterinary care for up to 50 MWDs.

- Coordinate for medical and surgical treatment or the evacuation of MWDs to a MDVM or to CONUS facilities.
- Provide procurement inspection of Class A-Rations.
- Conduct commercial sanitary inspections, to include block and packaged ice, bottled water, bakery, egg, poultry, red meat, pork, and dairy plants.
- Provide CBRN surveillance of contaminated subsistence and their subsequent disposition.
- Determine the disposition of CBRN-contaminated subsistence.
- Investigate unexplained animal deaths.
- Provide surveillance inspection of commercial/catered rations.
- Conduct basic food microbiological surveillance of military subsistence.
- Provide veterinary inspection of up to seven DSUs and/or GSUs.
- Publish an annex to the Directory of Sanitarily Approved Food Establishments for Armed Forces Procurement. In the absence of a MEDBDE or a veterinary service (headquarters), inspect all government food storage facilities within the corps AO.
- Provide inspection of all food at time of receipt, either from procurement agencies or as government owned subsistence.
- Provide surveillance inspection of all foods in storage and at time of issue or resale.
- Monitor and evaluate public health, diseases that are common to both animals and man, and food safety data to include those foods and food-producing animals exposed to CBRN agents. Provide information to its higher headquarters on those factors posing a potentially adverse affect on the overall HSS mission.
- Provide veterinary support to humanitarian civic action programs.
- Conduct animal disease prevention and control program.
- Provide limited Level I veterinary care for large animals as directed.
- Establish communications and direct coordination with supported logistical organizations of all Services and other federal agencies, military units resourced with GOAs, HN public health officials, allied nations with animals in the AO, and to the State Department.

*d. Mobility.* This veterinary detachment is organized into a headquarters, and seven mobile veterinary squads. These squads have the capability to task-organize across squad lines or subdivide to

meet a variety of functional scenarios within the stated mission. There are seven basic veterinary squads. Each squad has an animal care specialist assigned and each squad can be utilized to assist with procurement inspections. All squads maintain 100 percent mobility to ensure mission completion and to independently operate in two separate locations for short periods of time. The entire unit can operate in 6 to 12 locations within a 70-kilometer radius, depending on environmental and tactical travel restrictions.

*e. Concept of Operations.*

(1) In the corps, the MDVS is usually assigned to the MEDBDE. This detachment may provide C2 and limited administrative and logistical support for subordinate veterinary assets in the corps AO. The veterinary squads may be forward deployed to support the GSUs or DSUs at Class I points. Other squads may be located in the corps rear area to support procurement inspections for Class A-Rations. Some squads may be attached to USMC divisions or USN port activities to support food inspection operations. The animal care specialist may be located near a major air base to receive injured MWDs and will be near the largest population of MWDs in the AO. Additionally, animal care specialists from the other squads may be attached to air bases to support MWDs health requirements.

(2) In an EAC, the MDVS is assigned either to the MEDBDE or to a MDVS (headquarters). The emphasis of this unit's mission is food inspection that is conducted at theater GSUs located at ports or airheads. This unit will also perform commercial food production sanitary inspections. An example of the MDVS, with its assigned elements is provided in Figure B-2.

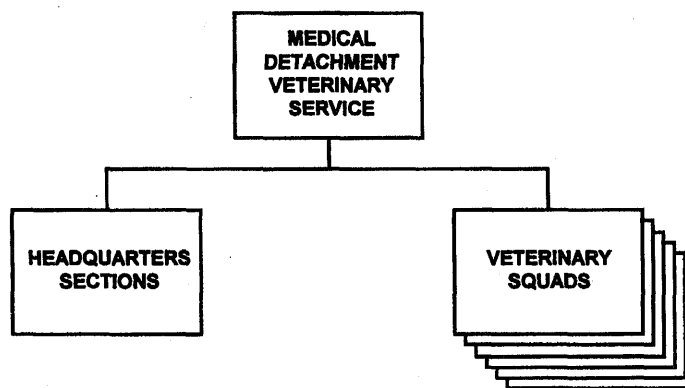


Figure B-2. Medical detachment, veterinary service.

**B-7. Medical Detachment, Veterinary Medicine, TOE 08418L000**

*a. Mission.* The mission of this unit is to—

- Provide Level III veterinary medical care to GOAs.
- Provide veterinary support for civic action programs.

- Conduct animal disease prevention and control programs.

*b. Assignment and Basis of Allocation.*

- (1) The MDVM may be assigned for C2 to—
  - Medical brigade (COMMZ), TOE 08422L200.
  - Medical detachment, veterinary service (headquarters), TOE 08409L000.
  - Medical detachment, veterinary service, TOE 08417L000.
- (2) One unit is allocated per 50 to 200 MWDs in support of all branches of the Military Services.
- (3) One unit is allocated for every seven military police companies (heavy security) and MWD section.

*c. Capabilities.* The MDVM provides Level III veterinary medical and surgical care to MWDs, provides veterinary medical support for stability operations and support operations, and conducts animal disease prevention and control programs. This unit—

- Provides animal care services for up to 200 MWDs.
- Provides consultation services for animal care specialists attached or organic to units having MWDs for animal health maintenance on an area basis.
- Receives injured/ill MWDs from other veterinary service units and provides treatment or further evacuation.
- Provides a medical element for immediate deployment to high or potentially high casualty areas for triage and EMT of MWDs.
- Provides veterinary support for stability operations and support operations. Also provides veterinary care for large animals under certain conditions of government interest.

*d. Mobility.* The MDVM is authorized 15 personnel and maintains approximately 30 percent mobility with organic assets.

*e. Concept of Operations.*

(1) The MDVM normally establishes a centrally located veterinary hospital in proximity to the MWD population supported along normal ground or air medical evacuation routes or MSRs. Since the veterinary medicine unit is the final echelon of veterinary treatment and hospitalization in the AO, it is normally employed at EAC. It maintains a holding facility for long-term treatment and is capable of

providing hospitalization for 50 MWDs. Military working dogs treated at this facility may be held for 15 days, returned to duty, or further evacuated.

(2) This unit has the capability to immediately deploy a module to high or potentially high casualty areas for triage and EMT. Required functions include the following:

- Perform basic cardiopulmonary resuscitation (to include establishing and maintaining an airway).
- Perform basic clinical laboratory procedures.
- Stabilize/temporarily stabilize fractures.
- Provide care for chest and abdominal wounds.
- Stabilize patients for evacuation.
- Provide veterinary care for large animals.

**B-8. Medical Detachment, Veterinary Service (Small), TOE 08419L000**

*a. Mission.* The mission of this unit is to provide veterinary services and medical support in the area of approved food sources, facility sanitation, procurement and surveillance inspection of food, and environmental zoonotic disease hazards. It provides Levels I and II veterinary care for MWDs and civic actions programs. It also provides veterinary preventive medicine and public health functions for all branches of the Armed Services and federal agencies throughout the TO.

*b. Assignment and Basis of Allocation.* This detachment is assigned to a MEDBDE, a MDVS, or a MDVS (headquarters) as the tactical situation dictates. This unit is allocated one per every 10,000 US or US-supported forces in the CZ, one per every 20,000 Army personnel in the COMMZ, and one per every 20,000 Navy, Marine, and Air Force personnel supported. The detachment could be deployed to an area with less than 10,000 troops, as mission dictates.

*c. Capabilities.* The MDVS (small) possesses the capabilities that allow the detachment to—

- Provide inspection services for commercial food resources in support of procurement organizations.
- Publish and distribute a directory of approved establishments and inspection of all government food storage facilities.
- Provide inspection of all food at time of receipt either from procurement action or as government-owned.

- Perform surveillance inspections of all foods in storage and at time of issue or resale.
- Monitor and evaluate environmental, enzootic/zoonotic disease, and food safety data, to include those foods exposed to CBRN agents.
- Brief the MEDBDE commander on those factors posing a potential adverse affect to the overall HSS mission.
- Provide limited veterinary care to DOD military units with GOAs and civic action programs.
- Establish communications and coordinate with supported logistical organizations of all Services and other federal agencies.
- Establish communications and coordinate with military units resourced with MWDs, HN public health officials, and the state.

*d. Mobility.* The MDVS (small) has 100 percent mobility to facilitate the travel requirements dictated by the assigned mission.

*e. Concept of Operations.*

(1) Medical detachments, veterinary service (small) are attached to medical units for C2. They are OPCON or assigned inspection responsibilities at ports or other elements dependent upon local food supplies in countries where approved inspection services are not available. This unit may also be assigned inspection responsibilities of Class I points at corps- and theater-level supply points. The tactical situation will dictate the specific location of such elements in the theater. This veterinary unit can normally inspect rations on a daily basis at many locations depending on the environmental and tactical travel restrictions. Transportation to perform food inspection at a number of locations is essential. Daily activities involve several stops at a variety of dispersed locations.

(2) This unit will provide Level I and II veterinary care for up to 25 MWDs on an emergency and short-term basis.

(3) Command and control for the MDVS (small) is provided by the MEDBDE, MDVS (headquarters), MDVS, or another medical control element, depending on its location.

*f. Theater Veterinary Services.* See Figure B-3 for laydown of veterinary service units/ elements supporting a TO.

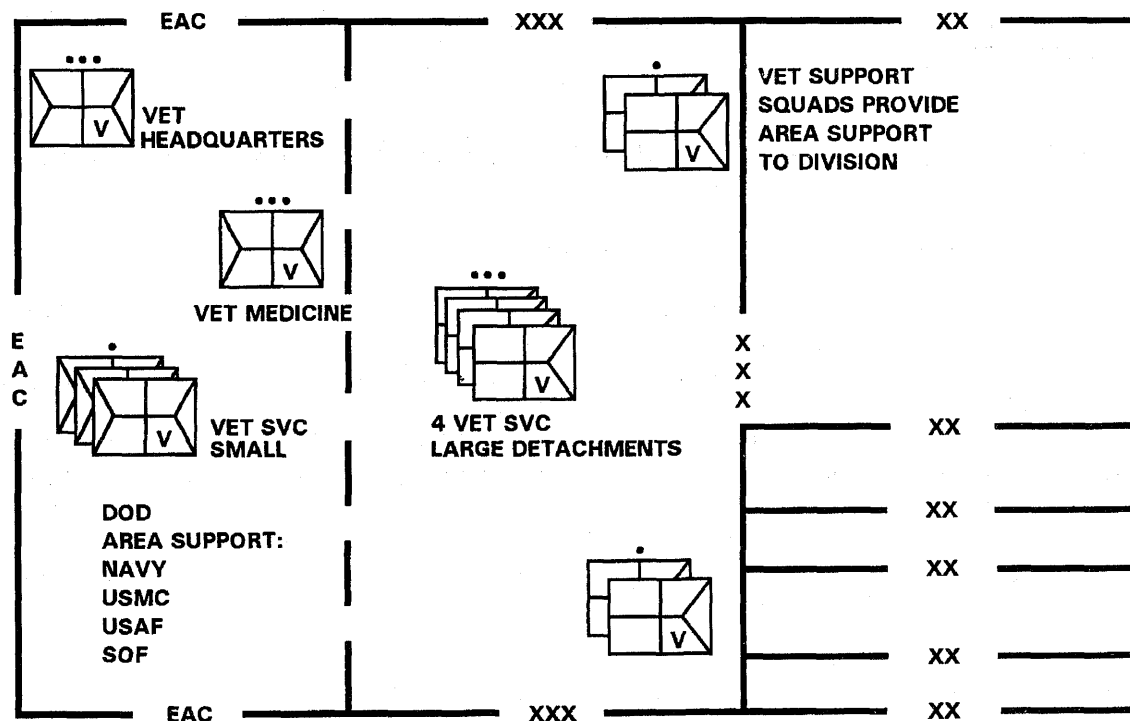


Figure B-3. Theater veterinary services for a notional 5 division corps.

## Section IV. VETERINARY SERVICE SUPPORT SYSTEM

### B-9. Veterinary Support to the Field

See paragraph 2-10.

### B-10. Command and Control

a. Command and control of veterinary units is normally provided by the senior medical commander in the corps AO. The senior veterinary unit commander in EAC provides C2 for veterinary units assigned to EAC.

b. The senior veterinary commander in the corps will exercise C2 over EAC veterinary units in the absence of a veterinary service headquarters. The MEDBDE staff veterinarian provides technical guidance through policy statements and mission priorities. The senior theater staff veterinarian in a multicorps operation can be dualhatted as the MEDCOM veterinarian.



c. The senior veterinary service detachment commander in the corps provides C2 for all veterinary assets in the corps.

## **Section V. VETERINARY SERVICE SUPPORT FOR SUBSISTENCE**

### **B-11. Subsistence Support to the Theater of Operations**

Veterinary support will also be required for those USAF, USMC, and USN GS and DS supply and service units. Veterinary support requirements are based on the mission and the size of the force supported. Medical detachment, veterinary service and MDVS (small) are found in support of those TSC GSUs that receive, store, and distribute subsistence. These rear GSUs generally provide support from fixed facilities located near ports of debarkation. Additional food safety and quality assurance support is provided to subsistence platoons, support companies, supply companies, and support battalions. Figure 3-1 depicts the flow of Class I requisition and Figure 3-2 shows the flow of rations in the theater of operations. The requisitioning and distribution of subsistence is explained in FM 10-23. Veterinary units are found in support of those corps and divisional CSS units that receive, store, and distribute subsistence that is in support of those COSCOM GSUs and DISCOM DSUs within the AO.

### **B-12. Army Subsistence Requisition and Supply System in the Theater**

Requisitions for all classes of supply, including Class I, are initiated in the battalion field trains. From that point, the requisitions are forwarded to the DSU, then through the DMMC, CMMC, TSCMMC, to the DSCP, Pennsylvania. The TSC receives corps requirements and routes material to the TSCMMC. The subsistence is shipped by DSCP from depots or vendors for delivery to the theater Army GSU where it is distributed to the COSCOM subsistence supply point. Subsistence shipments may also be shipped directly from CONUS to the COSCOM. Next, subsistence moves to the division MSB/division support battalion, which distributes to the supported units in the DSA. The MSB also distributes to the BSB/FSB's FRBP which distributes to the field kitchens.

## **Section VI. VETERINARY SERVICE SUPPORT FOR ANIMAL CARE**

### **B-13. Animal Care Support to an Area of Operations**

The MDVS and the MDVS (small) have a primary mission of food safety/quality assurance but also provide Levels I and II veterinary care. Due to the possible wide dispersion of MWDs within the corps, veterinary units found on MSRs allow for the ease of patient flow and evacuation of the MWDs. Medical detachment, veterinary service units may be collocated with a medical task force to enhance animal care support through available radiographic and dental surgery support. These units also provide veterinary PVNTMED functions and support stability operations and support operations. Units may also provide limited care for indigenous animals in the AO. Animal medicine and surgical support will be required for those Army, USAF, USMC,

and USN GOAs which will be supported on an area basis. The animal care specialist may be attached to bases with high concentration of MWDs to provide on-site veterinary health care support.

#### **B-14. Animal Care Support to Echelons Above Corps**

Medical detachments, veterinary medicine provide Level III care. These detachments are normally found in support of large concentrations of MWDs along evacuation routes and near major USAF bases when established. Animal medicine and surgical support is required for those USAF bases with MWDs. Additional animal medicine support for USMC and USN GOAs will be based on population strengths. Due to the MDVM capabilities, equipment, and transportation requirements, it is found only in the EAC. Levels I and II equivalent care is provided by the MDVS and the MDVS (small). Medical detachments, veterinary service provide the emergency treatment and stabilization procedures, then prepare and coordinate evacuation of the MWDs to the MDVM or to CONUS-based facilities. Each of these units also provide veterinary PVNTMED functions and support stability operations and support operations. They may also provide limited and emergency care for indigenous animals in the AO when tasked through command channels.

## APPENDIX C

**VETERINARY SERVICES IN DOMESTIC SUPPORT  
OPERATIONS FOR HOMELAND DEFENSE AND  
SUPPORT TO CIVIL AUTHORITIES****C-1. Domestic Support Planning**

a. Domestic disasters occur due to various causes and many may require the assistance of DOD and more specifically, the Army Veterinary Service to fill response shortfalls. In the post-9/11 environment, terrorism or other intentional acts are recognized as a more likely cause of contingencies within the US than many had acknowledged since the civil defense era of the forties and fifties. This threat increases the likelihood that a large-scale disaster will occur that requires the augmentation of civil authorities' resources by DOD. The US Department of Homeland Security (DHS) and US Northern Command have been established to coordinate the preparedness for and response to such events for civil authorities and the DOD respectively.

b. Domestic support operations are typically conducted to prevent loss of life and property. Certain operations may be conducted in the form of immediate and automatic response by US military commanders as defined in DOD Directive (DODD) 3025.15, to save lives, prevent human suffering, or to mitigate great property damage under imminently serious conditions. Additional requests for support for civil disasters are made by civil authorities or a Defense Coordinating Officer (in a Stafford Act declared emergency). This request is sent through the Joint Directorate of Military Support then processed according to DODD 3025.15 through command channels from the Secretary of Defense.

c. Homeland Security Presidential Directive-5 (HSPD-5) recognized that there is an artificial separation of local, state, and federal response to an incident and the role of DOD is not well-streamlined or defined. This recognition led the White House and the DHS to initiate the transition from the Federal Response Plan to the National Response Plan, which serves as the doctrine for how the US responds to disasters no matter the cause.

(1) The HSPD-5 directs that all management of domestic incidents will be conducted using a single, comprehensive National Incident Management System (NIMS). Army Veterinary Service personnel, as part of the planned response resource for such incidents, need to be trained in this management system and understand what roles they might play in support of civil authorities organized this way. Recommended Incident Command System (ICS) training to fill these roles should include—

- An orientation to ICS, how it varies from the Command and General Staff System, and an overview of domestic response plans and the veterinary mission should be provided for all potential responders.
- Potential managers in an incident response should be trained in higher levels of ICS to fill their roles. It should not be assumed that a higher military rank automatically qualifies a soldier to supervise in an incident being managed using NIMS.
- Whenever practical, potential managers should be afforded the opportunity to train with their civilian counterparts for disaster responses.

(2) Veterinary support plans to augment civil authorities are necessary for a variety of contingencies. Domestic support planning must address a range of problems such as—

- Preidentifying veterinary capabilities, units, and personnel available to support various contingencies large enough to require civil support.
- Command and control relationships between civil authorities and DOD forces especially when DOD units are divided.
- Support for deployed DOD forces when no DOD logistics operations are deployed, including medical support.
- Cost capture and reimbursement from civil authorities to DOD in non-Stafford Act emergencies.

(3) The veterinary mission in domestic support planning includes—

- Augmenting animal health authorities in foreign animal disease eradication response in surveillance, field investigation, epidemiology, and laboratory functions.
- Augmenting the animal treatment capabilities of local veterinary hospitals and clinics or that of civil authorities for working animals.
- Augmenting food safety authorities for testing, decontamination and disposition of food affected by nuclear, chemical, power outage, or other event affecting live food animals or food stockpiles.
- Veterinary medical support for MWDs deployed to augment homeland defense personnel for scheduled events such as the Olympics and for unplanned contingencies requiring additional security measures.

## **C-2. Duties of Veterinary Personnel in Domestic Support Operations**

The duties of veterinary personnel in domestic support planning are both professional and advisory. Veterinary Service officers and noncommissioned officers (NCOs) may be required to serve in leadership positions in a response organization using the ICS management structure. Veterinary Service personnel may be invited to provide technical advice on zoonotic and epizootic disease control measures, care and treatment of animals affected by CBRN agents, and safety and disposition of food affected by natural disasters or CBRN events.

## **C-3. Actions Before Domestic Support Operations**

In order to respond most effectively to requests for domestic support, Veterinary Service leaders should have a familiarity with the supported agency's SOPs and concepts of operation for response to various

events. Ideally, veterinary units would have plans for how their resources and capabilities would mesh with these agency plans when requested. Specific examples of agencies, programs for which they are responsible, and augmentation requirements by DOD veterinary personnel are as follows:

- United States Department of Agriculture, APHIS for a livestock disease outbreak such as hoof and mouth disease or CBRN events affecting livestock.
- The USDA Food Safety Inspection Service for food safety issues in a radiological hazard response.
- The United States Department of Health and Human Services (USDHHS), National Disaster Medical System for veterinary services in natural disasters through their veterinary medical assistance teams (VMAT).
- United States DHS and it's subordinate agencies for domestic support operations.

#### **NOTE**

Specifically VMATs “assist in delivering healthcare to injured or abandoned animals and performing veterinary PVNTMED activities following a major disaster or emergency, including conducting field investigations and providing technical assistance and consultation as required.”

- The USDHHS, Food and Drug Administration for food safety of regulated foods in disasters.
- The USDHHS, Public Health Service for zoonotic disease outbreaks.
- The United States Department of Interior (USDOI), Fish and Wildlife Service for animal issues caused by oil spills.

Veterinary units should train with these civilian agencies as much as possible to understand their organizational structure, identify the agencies’ potential mission shortfalls, and to build the relationships and trust needed to be assimilated into their response organization without hesitation during an event.

#### **C-4. Actions During and After Domestic Support Operations**

Veterinary units or other personnel deployed in support of domestic support operations should take the following actions:

- Respond to the needs of the civil authorities as authorized and as much as possible without going beyond their capabilities or jeopardizing their performance.

- Identify deficiencies in the unit's plans and SOPs for response to such an event so that they can be updated based on this experience.
- Keep a detailed accounting of all costs incurred by units to support the operations, as they may be reimbursable to the unit. These include travel costs and in non-Stafford Act emergencies, will include soldiers' salaries.

#### **C-5. Request for Assistance from Civil Authorities**

As described above, there are certain procedures for military units to be requested to support civil authorities. These procedures do not apply to National Guard assets unless they are mobilized under Title 10 of the US Code. Prior to federalization while under Title 32, the Governor can use his State's National Guard immediately. Veterinary assets in the National Guard are limited. These procedures for requesting assistance however, do not preclude military units from training with potentially supported civil authorities and emergency management personnel. This training is essential to learn policies and procedures which will be in effect for response to events.

#### **C-6. Concept of Operations**

a. It is assumed that the civil leaders with legal authority in the particular discipline affected by the disaster will perform the initial assessment and initiate the response. Following the model used by emergency management, local legal authorities and emergency resources will be used first and when overwhelmed, request augmentation by State resources. Similarly, States when overwhelmed make a Federal request. Other than for those exceptions listed, DOD resources can only be requested when all these systems are exhausted including those services that may be contracted according to DOD regulatory guidance. Because of their unique skills and capabilities, Army Veterinary Service units and soldiers may be requested much sooner than typically expected of other DOD resources because of the limited inventory of this skill set nationally.

b. Exceptions to the model above may occur when Federal resources exist locally such as USDA field personnel, and are usually part of the local- and State-level responses. Some scenarios such as human and animal disease outbreaks may have national and international consequences immediately that may cause Federal involvement in response to decision-making from the first case. Because of overlapping legal authorities, it would not be uncommon for a Federal or State employee to be the local Incident Commander in this circumstance.

c. Veterinary units may be requested to augment a response at any of these levels and should be prepared to take direction from whichever organization they are assigned. Since HSPD-5 made NIMS the standard for organization of emergency responses in the United States, it is presumed that the organizational structure will be similar at all of these levels.

## APPENDIX D

**MILITARY WORKING DOG PROGRAM  
VETERINARY SERVICE****SECTION I. OVERVIEW OF DEPARTMENT OF DEFENSE  
MILITARY WORKING DOG PROGRAM****D-1. Roles of Services, Agencies, and Organizations**

a. *The Department of Defense Military Working Dog Program.* The DOD MWD Program has the participation of USAF, US Army, USN, and USMC. The USAF is the largest user of MWDs and has been designated to function as the DOD Executive Agent for the MWD program. The Army is the DOD Executive Agent for Veterinary Services and, as such, works closely with all the Services to support their respective programs. Specific roles of the various Service elements include:

(1) *Office of the Chief, United States Air Force Security Forces.* The USAF Security Forces acts as the DOD Executive Agent, represents MWD program interests at the joint service level, and serves as Chair (or designated Chair) of the Joint Services Military Working Dog Committee (JSMWDC). This office is also responsible for ensuring appropriate coordination between DOD and other federal agencies for utilization of canine resources to meet security and resource protection requirements.

(2) *The United States Army Veterinary Service.* The Army Veterinary Service, as Executive Agent, provides equitable veterinary support to all services and is responsible for ensuring MWDs receive full medical care regardless of installation or unit assigned. Veterinary corps officers perform requisite examinations, treatments, and surgery as necessary, specify diets to be fed, advise on operational use, and in concert with the owning unit are responsible for the health and welfare of MWDs at the unit level according to applicable service regulations.

(3) *Joint Services Military Working Dog Committee.* This committee, chaired by the USAF, is made up of a MWD program representative from each military Service branch. It meets semiannually to discuss MWD policy and operational issues to include training requirements, inventory management, unfilled canine requisitions, mobility taskings, certification procedures, veterinary support, and other subject areas. The JSMWDC is the policy making arm of the MWD Program. The Director, DODMWDVS, serves on the committee as a nonvoting member.

(4) *Air Force Security Forces Center.* The Air Force Security Forces Center (AFSFC) administers the USAF MWD Program and coordinates activities with USAF major commands (MAJCOMs) and the other Services. The DOD taskings to support other federal agencies in counterdrug, counterterrorism, and Presidential protection missions originate from this office and are passed on to one of the four Services for execution.

(5) *Service Canine Program Managers.* These individuals are senior security forces or military police personnel designated at headquarters level of their respective Services to coordinate MWD activities. They coordinate and advise on distribution and disposition of MWDs with their respective service branch or major command. The program managers are extremely important in their role of coordinating mobility taskings for the MWD teams.

(6) *The Major Command Coordinator.* Each USAF MAJCOM and US Army MACOM has a MWD coordinator who functions within the Command's Security Forces Commander's or provost marshal's office to oversee MWD activities at the operational level. They respond to taskings and manage MWD resources within their command. In general, the USN and USMC MWD Program Managers centrally manage their service branch program.

(7) *The 341st Training Squadron.* The 341st Training Squadron (TRS) is the unit designation for the DOD MWD Training Center (commonly referred to as "the DOD Dog Center") at Lackland Air Force Base (AFB), Texas. It is a subordinate unit of the 37th Training Group of the 37th Training Wing. All DOD MWDs and handlers are processed through this unit. The 341st TRS procures, trains, distributes, and manages the entire DOD canine inventory with approximately 200 personnel assigned to one of four flights—Operations, Training Support, Logistics, and Veterinary Service. The Operations Flight is composed primarily of active duty personnel from all Services, and they are responsible for all dog and handler training. The Training Support Flight is a small flight composed of USAF personnel to support training and administration. The Logistics Flight is primarily composed of USAF civilian personnel and is charged with procuring all MWD candidates, conducting training evaluations on prospective MWDs, and shipping and receiving all dogs. They also manage the worldwide inventory of over 2,200 MWDs and are responsible for all kennel care functions (feeding, grooming, kennel cleaning, and other related tasks) supporting the approximately 650 MWDs normally on-hand at the MWD center. The Veterinary Service Flight is discussed below.

(8) *Department of Defense Military Working Dog Veterinary Services.* This Army Veterinary Service unit functions operationally as the 341st TRS Veterinary Service Flight (341st TRS/Service Group, Veterinary). It has the mission of providing full support to the MWD Training Center and for comprehensive referral and consultation services to the canine program worldwide. Approximately 50 military and civilian personnel are assigned, to include specialists in veterinary internal medicine, radiology, surgery, epidemiology, and animal behavior. The director serves as the MWD specialty advisor to The Army Surgeon General.

b. *Interaction with Other Federal Agencies.* There is much interaction between the DOD MWD programs and the other federal agencies, particularly with the Transportation Security Agency (TSA), the US Customs Service (USCS), the US Secret Service (USSS) and the US Border Patrol (USBP). These groups frequently work together with the military Services operationally on joint missions, participate in procurement and/or training with the 341st TRS, and utilize Army Veterinary Services. Provision of veterinary medical care by VCOs with appropriated or nonappropriated supplies is defined by MOUs or MOAs between US Army VETCOM and the specific federal agencies. Veterinary corps officers should learn and know the currently applicable care and reimbursement standards for federal non-DOD working dogs in their area. Every effort should be made by veterinary units to support these federal canine programs in the interest of sharing government resources; however, this support should be appropriately prioritized with other military responsibilities. Dogs may be referred to the DODMWDVS for definitive care with transportation of the animals being the responsibility of the respective agency. The VETCOM is responsible for the coordination and update of all MOUs/MOAs defining care to be provided by their command to the respective federal agencies.

(1) *Transportation Security Agency.* The 341st TRS provides trained explosive detector dogs (EDD) to the TSA and, in return, the TSA provides a specific number of instructor personnel to the



squadron. The TSA dogs are evaluated, procured, medically processed, and trained just as those for DOD. The TSA has approximately 300 EDD located at various major airports around the country to assist in airport security and explosive detection. Over the years from 2004 to 2006 the TSA expects to increase to approximately 500 Federal EDD. An MOU exists between VETCOM and TSA, which allows for the provision of care to TSA dogs, since the dogs are processed through the DOD system (have DOD tattoo and are maintained on the DOD inventory), but TSA dogs are provided care on a reimbursable basis (charged for medical supplies and pharmaceuticals at cost). Care is to be provided in Army VTFs, and funds will not be obligated for civilian care of non-DOD working dogs unless prior arrangements have been discussed and approved by the DVC or RVC Commander. Another 30 to 40 non-DOD TSA dogs (locally owned by municipal law enforcement agencies) augment this group; they are not currently authorized care, as they are not federally-owned working dogs. Local MOUs may be established to authorize reimbursable care for these dogs, when appropriate.

(2) *United States Secret Service.* A very close association exists between the USSS and the DOD in that the basic mission of the USSS is protection of the President, the Commander-in-Chief. The animals are trained in Laurel, Maryland, at the USSS centralized training center. The Veterinary Corps currently provides full care after the dogs are permanently assigned to handlers in the National Capital Region (NCR). The military and USSS dog teams perform joint missions of Presidential protection, security, and explosive detection on a frequent basis. Under MOA with the Army, USSS working dogs are cared for on a nonreimbursable basis (same level of care as MWDs with no fees incurred).

(3) *United States Customs and Border Protection.* The United States Customs and Border Protection (USCBP) is the unified border agency of the US Department of Homeland Security (DHS). It includes canine units of the USCS and USBP. As the DHS and USCBP complete their reorganization, the missions and unit structures of these two services may be integrated or remain separate. Updates of MOUs may be necessary to keep current with changes in USCBP structure.

(a) *United States Customs Service.* The USCS independently conducts their own canine program through their headquarters in Front Royal, Virginia. The USCS has the primary mission for drug detection at ports of entry into the US. As part of the Federal antidrug program, the military Services support USCS operations by assigning several dog teams as requested on rotational temporary duty basis to the inspection points. Procurement support is provided to the USCS on a nonreimbursable basis by the Fort Myer Veterinary Branch, National Capital District Veterinary Command (of the North Atlantic Regional Veterinary Command) and the DODMWDVS. The USCS working dogs at other locations may be provided reimbursable care under local MOUs.

(b) *United States Border Patrol.* The USBP has the role of suppressing illegal immigrant and drug entry into the US. Their canine program is centered in El Paso, Texas, with kennels on Fort Bliss. Dog teams are located primarily along the US-Mexican border. USBP working dogs are provided care on a reimbursable basis at other locations under local MOUs.

c. *Functions of Military Working Dogs.* Since the end of the Vietnam conflict, the operational use of MWDs has essentially been vested in the military and security police units. In this capacity, MWDs have performed primarily law enforcement and security functions. The concept of training dogs for proficiency in two tasks was implemented in the mid-1970s and led to the development of the dual-trained

“patrol-detector dog.” There has been a steady trend since that time toward production and use of dual-trained MWDs. Presently, the following categories of dogs are trained and maintained in the DOD inventory:

(1) *Patrol/explosive dogs.* These dual-trained patrol/explosive (P/EX) MWDs are the most highly skilled in that they are trained and certified (95 percent level) to detect more than ten different explosive substance odors. They also must be able to perform all patrol dog functions to standard. The P/EX dogs are used to search and secure areas for explosive devices, particularly aircraft/terminals, senior leadership offices, vehicles, and so forth. They are frequently called on to assist the USSS in providing Presidential security and are used more and more in other counterterrorism missions. The demand for P/EX dogs is increasing and presently they comprise more than 50-60 percent of the MWDs trained per year.

(2) *Patrol/drug dogs.* The patrol/drug (P/D) dogs are trained to detect illegal drugs and in addition are trained for patrol functions. They are certified to a minimum 90 percent proficiency level to accurately detect four different drug odors. These MWDs have been credited with playing a major role in successfully combating the drug problem in the military services. Approximately 30 to 40 percent of the MWDs produced are for this dual purpose.

(3) *Patrol dogs.* Patrol dogs that are trained for the single purpose of performing security and law enforcement functions such as controlled aggression, scouting, resource protection, building searches, and so forth. These dogs are not trained or certified to detect drugs or explosives. They are frequently utilized for foot patrol in high crime areas and perimeter patrol to augment security programs for resource and personnel protection. Currently, less than 5 percent of all dogs trained at the DOD Dog Center are single purpose patrol dogs.

(4) *Explosive or drug detector dogs.* A small number of single-purpose EDDs or drug detector dogs (DDD) are trained each year, primarily for the Federal Aviation Administration as part of their airport/airframe security program. Sporting breeds are most commonly used for this category of MWD. The dogs are only trained for basic obedience and detection of either explosives or narcotics. Approximately 5 to 10 percent of dogs trained at the DOD Dog Center are single purpose detector dogs.

(5) *New missions.* There is interest in expansion of the MWD Program into new mission areas. From time to time the US military may develop a need to train and maintain special purpose dogs. These and other missions will further increase the requirements for MWD numbers and veterinary support.

(a) *United States Army Corps of Engineers.* A small number of single-purpose explosive hazard detector dogs such as mine detector dogs (MDD) or specialized engineer search dogs are trained and maintained primarily for highly specialized missions such as land mine detection and specialized engineer search operations. Sporting breeds are most commonly used for this category of MWD. The dogs are only trained for basic obedience and detection of explosives or similar hazardous devices.

(b) *United States Marine Corps.* The USMC is considering redevelopment of scout and tracking dogs.

d. *Procurement, Training, and Inventory Management.* By published joint instruction, the only agency in DOD authorized to procure, train, and distribute MWDs is the 341st TRS. All dogs entering the

DOD system must be inprocessed by this unit and the dogs, once procured, are maintained for accountability purposes on the permanent inventory managed by the 341st TRS Logistics Flight. There are specific processes for procurement, distribution, and elimination of MWDs:

(1) *Procurement.* Military working dogs are obtained by the 341st TRS from contractors primarily in Europe and the United States. The majority of the dogs considered for purchase are Belgian Malinois and German Shepherds, breeds very popular in Europe for police work, dog sport, and working dog trials. A lesser number of Dutch Shepherd dogs are presented for evaluation and a few sporting breeds are purchased for use as EDDs. The majority of Belgian Malinois, Dutch Shepherds, and German Shepherds are purchased with the intention of training them as dual-purpose MWDs. A smaller number of shepherd breed dogs and Labrador retrievers are being purchased for single purpose EDD training and for the mine detection program. The procurement process is managed by the DODMWDVS and the consignment section of the Logistics Flight. It is only through this very detailed process, implemented by the 341st TRS Flights, that dogs are officially purchased for DOD. The veterinary and consignment sections perform the medical and temperament evaluations to insure prospective MWDs meet specific criteria and standards. The rigid standards, developed from years of observations on performance and analysis of training data, are key factors in meeting the objective of maximizing the functional life-span of MWDs. When dogs are purchased and trained for DOD, they are expected to work at least to 10 years of age. It is very important financially and ethically to accept dogs into the DOD MWD program that can be easily trained, will not break down, and can remain serviceable for several years. Specifically the procurement process involves:

(a) *Medical examination (Med I).* This evaluation is oriented toward checking for conditions that may be debilitating or will likely compromise the functional life span of the potential MWD. Dogs with evident heart murmurs or indications of chronic dermatological, otic, ophthalmic, renal, or gastrointestinal disease are eliminated based on physical examination, hematology, serum biochemistry, urinalysis, occult heartworm (HW) testing, and fecal exam. Other diagnostics (electrocardiogram [ECG], echocardiogram, special serum chemistry, or immune testing, and so forth) may be conducted in some cases as indicated.

(b) *Radiographic examination (Med II).* An in-depth exam performed under general anesthesia: radiographic evaluation of pelvis, lumbosacral spine, and elbows; a complete oral exam; and palpation for pelvic laxity. Prospective MWDs are eliminated if there is any evidence of hip or elbow dysplasia, excessively loose hips, transitional vertebrae, or past orthopedic or dental injury that may compromise future MWD service.

(c) *Temperament evaluation.* Training personnel from the 341st TRS conduct a temperament evaluation on dogs that are medically acceptable for MWD service. Consignment period of up to 10 days to objectively evaluate search behavior, detector ability, aggressiveness, and potential trainability.

(d) *Final acceptance.* Dogs meeting medical and training criteria are officially accepted, given a permanent tattoo number, assigned an ideal weight range (IWR), microchipped, and placed into training. Unspayed females and cryptorchid males are neutered at this time.

(2) *Training.* New MWDs are entered into training as soon as possible. They are assigned to a training team and a specific trainer within the Operations Flight. Time in training varies from approximately 10 to 18 weeks. The MWDs are certified against established standards for the tasks trained.

(3) *Distribution and inventory management.* All distribution and inventory management of MWDs is the responsibility of the Logistics Flight Inventory Manager. Upon certification, MWDs are designated available for shipment to fill official requisitions from DOD customers. Each branch of service orders MWDs as supply items by specific stock number (national stock number [NSN] based on type of MWD), and their requisitions are maintained on a military standard requisitioning and issue procedures (MILSTRIP) request list by the Logistics Flight Inventory Manager. The MWDs are distributed to the units at the direction of each service/branch MWD Coordinator as their request reaches the top of the list. Dogs may be moved from one installation to another by the respective service managers as missions dictate and may also occasionally be returned to Lackland AFB for redistribution. All movements are coordinated with the 341st TRS MWD Inventory Manager who maintains a listing of all MWDs and their locations.

## **D-2. Military Working Dog Disposition, Adoption, and Law Enforcement Transfer**

a. *Disposition.* Military working dogs are only to be disposed of in accordance with AFJI 23-224/OPNAVINST 5585.3/MCO 10570.1A/AR 700-81 and AR 40-905/SECNAVINST 6401.1A/AFI 48-131. These regulations provide direction on elimination, redistribution, euthanasia, and shipping of MWDs. Implementation of these regulations has been modified by Public Law 106-446 Amendment to Title 10 United States Code which requires evaluation of eliminated MWDs for possible adoption or law enforcement transfer (see below). The disposition process encompasses all aspects of evaluating an MWD for elimination/retirement followed by law enforcement transfer, adoption, or nonemergent euthanasia. Initiation of the disposition process is the responsibility of the kennel master. A disposition packet is submitted to the disposition coordinator at the 341st TRS DOD Dog Center. Army or USAF packages must be submitted through their MACOM/MAJCOM with an information copy provided to their Service MWD Program Manager. Navy or Marine packages must be submitted through their chain of command to their Service MWD Program Manager. Regardless of the reason for disposition, all packets must contain the following:

(1) A letter requesting disposition instructions identifying the apparent cause of failure and a summary of retraining efforts or medical problem. Include the following as attachments to the request letter:

(a) Documentation pertaining to MWDs that are unable to certify whether due to medical, training, or behavioral issues. These are reviewed by a committee of experts at the Dog Center for disposition recommendations. The MWD Disposition Board responds to requests for disposition of MWDs and makes the decisions whether a particular MWD should be eliminated from service, also known as declaring a dog, "excess" to the needs of the DOD.

(b) Training issues. If the inability to certify or maintain certification appears to be due to inadequate training or poor physical conditioning, MWDs are required to undergo at least 30 days of intensive retraining at the owning unit. If retraining fails to result in recertification, the owning unit is required to document the training deficiencies and prepare a disposition packet. Training documentation requirements include:

- Training records from start of training issue to present.
- Last 6 months of training not a training issue.
- Behavioral issues.

A board certified behaviorist is on staff at the Dog Center. If behavioral problems are impacting on the dog's ability to maintain certification, a consult should be requested.

(c) Medical problems. The VCO must consult with the regional veterinary clinical specialist (64F) or the DODMWDVS when disease or injury warrants disposition and to fully assess potential impact of medical illness when a MWD is submitted due to training failure.

- For CONUS-based dogs, the regional specialist will be located at the DODMWDVS.

- For OCONUS dogs, depending on their region, consult with the designated regional clinical specialist: Korea—129th Medical Detachment; Germany—51st Medical Detachment; Japan—Officer in Charge Okinawa Clinic; Hawaii—Central Pacific District Commander.

- The animal care specialist will provide a written consultation, which indicates the MWD's major medical conditions, diagnosis, and prognosis for return to duty.

- Documentation by the attending VCO in the form of an official letter to the owning unit commander should include an accurate diagnosis and prognosis for fitness of duty. In addition, medical and behavioral issues should be addressed for adoption eligibility.

(2) The disposition process does not interfere with the responsible VCO's authority to perform emergent euthanasia to prevent suffering of the MWD with severe illness or injury which cannot be ameliorated sufficiently to allow return to duty or medical eligibility for adoption. Emergent euthanasia should be coordinated with the responsible veterinary commander and/or regional clinical specialist when this consultation will not prevent unwarranted suffering of the MWD.

(3) Possible outcome from the Disposition Board.

(a) Excess: If the dog is unable to perform in any capacity as a MWD, the committee declares the dog "excess" to the needs of the DOD. The owning unit commander now has full authority to remove the dog from service through the following means:

- Adopt to a qualified, suitable candidate (see the following paragraph on adoption).
- Transfer to law enforcement if medically eligible.
- Euthanasia (medically or behaviorally ineligible candidates).

(b) Not excess: Disposition Board deems MWD should not be removed from inventory, in other words should stay on duty. Military working dogs may be retained as a single purpose dog if appropriate.

(c) Training aid: Authorization to return MWD to 341st TRS for possible use in MWD student handler training.

*b. Adoption.* Military working dog adoption was authorized by legislation late in 2000, now known as "The Robby Bill." Once the dog has been declared "excess" to the needs of the DOD and deemed suitable for adoption, both medically and behaviorally, the unit commander may consider adoption of the dog. The law states that the DOD may make excess MWDs available for adoption to law enforcement agencies outside DOD, former handlers of particular MWDs, or other individuals capable of humanely caring for these animals. The local MP/SF unit commander decides whether a particular MWD is adoptable after consulting with the 341st TRS, supporting VCO, kennel master, and K9 training NCO. The law requires that the Secretary of Defense report to Congress each year regarding MWD adoption, the MWD Disposition and Adoption/Transfer Process is primarily the responsibility of the MWD chain of command and the 341st TRS; however, the Director, DODMWDVS is responsible to prepare the annual yearly summary covering:

- (1) The number of MWDs adopted.
- (2) The number of MWDs euthanized.
- (3) The reasons why MWDs were euthanized rather than retained for adoption.

### **D-3. Directives Pertaining to the Military Working Dog Program**

*a.* Several regulations, manuals, and pamphlets apply to the DOD MWD Program; some are Tri- or Quad-Service while others are single-service specific. Each VCO is urged to become familiar with the appropriate directives pertaining to the MWDs under their responsibility.

*b.* Applicable regulations and directives:

- (1) AR 40-905/SECNAVINST 6401.1A/AFI 48-131—Veterinary Health Service.
- (2) AFJI 23-224/OPNAVINST 5585.3/MCO 10570.1A/AR 700-81—DOD Military Working Dog (MWD) Program.
- (3) AFI 31-202—Military Working Dog Program.
- (4) AFMAN 31-219—USAF Military Working Dog (MWD) Program.
- (5) AR 190-12—Military Working Dogs.

- (6) DA Pamphlet 190-12—Military Working Dog Program.
- (7) OPNAVINST 5585.2B—Military Working Dog Manual used by USN and USMC.

## **Section II. MILITARY WORKING DOG CARE AND ISSUES**

### **D-4. Care and Handling of Military Working Dogs**

All MWDs, regardless of breed or capabilities, should only be handled by individuals who have received handler training via an official military dog handler course. All MWDs are required to be muzzled whenever they are in a VTF and all handlers trained through Lackland AFB learn this practice as standard procedure. The fact that a MWD is not certified as a patrol dog does not mean that the dog will not bite or did not receive attack training. In fact, there are a few dogs in the inventory that did not certify as patrol dogs because they would not consistently release a bite/end an attack on command.

#### **NOTE**

On 14 December 1999, the JSMWDC issued a blanket DOD prohibition against the use of electronic training (shock) collars on MWDs. This letter was published on 22 March 2000, by the HQ, AFSFC/Force Security Office Chair, JSMWDC and forwarded to service program managers. This policy letter reinforces the consultation and referral mechanism available to the military veterinary clinician for use in the evaluation, treatment, and disposition of MWDs demonstrating refractory behavioral problems.

### **D-5. Standard Diet**

Army Regulations 40-905 and 700-81 require that all MWDs be fed a standard diet unless a special diet is medically required. The only diet currently authorized for general consumption is Hill's Science Diet Active Maintenance Formula (SDAMF). This diet selection was based on nutrition standards established by the DODMWDVS in consultation with Veterinary Nutrition Specialists and has been approved by the JSMWDC. The US General Services Administration (GSA) contract is evaluated at least annually and a change in standard GSA diet may be made if service on the current contract is deemed to be unsatisfactory or if a different dog food can be procured at less cost to the DOD. The standard GSA MWD diet is currently identified as NSN 8710-01-415-6950. The 7-gallon pail, NSN 7240-01-411-0581, may be used for storage of food during deployment but the food is delivered in bags. Purchase of the standard diet through GSA is a regulatory requirement. The use of the correct standard diet and appropriate means of procurement should be evaluated at each quarterly kennel sanitary inspection. Military working dog units are required to maintain a minimum one-month supply of food for their MWDs.

**NOTE**

The NSN listed for MWD ration in AR 40-905 is out-of-date. The NSN may change when the GSA contract is renewed or changed to a different vendor.

a. *Caloric Intake.* The dog's IWR and daily diet are set at the DODMWDVS at the time of procurement and observed throughout the training of the dog. This IWR and diet amount may be changed by local VCO, if required. Energy requirements may be dramatically altered due to environment or training requirements as these change throughout a MWD's life. An estimate as to a MWD's caloric requirements (kilocalorie [kcal]/day) can be calculated as shown below. There are 560 kcal per measured cup of standard diet active formula. Using the following formulas, daily caloric requirements can be readily calculated in order to determine the amount of food that should be fed to the MWD.

b. *Basal Energy Requirement.* Basal Energy Requirement (BER)  
$$\text{BER} = 30 \text{ kcal/kg} + 70$$

c. *Maintenance Energy Requirement.* Maintenance Energy Requirement (MER)  
$$\text{MER} = \text{BER} \times \text{Stress Factor}$$

The average stress factor for MWD is around 2.3 but varies greatly. If a MWD needs a diet with  $<1.4 \times \text{BER}$  or  $>3.5 \text{ BER}$  to maintain good body condition, organic and behavioral disease should be a concern.

**D-6. Medications and Military Working Dog Performance**

The true impact of anticonvulsant, steroid, and antihistamine drugs on MWD performance, particularly detection capabilities, is unknown yet remains a concern. Anecdotal reports, and clinical signs reported by people on these classes of medication, suggest that they may affect some MWD's ability to perform, either through altered scent sensation or altered behavioral responsiveness.

**NOTE**

Not all MWDs, or people, taking these drugs will have altered performance and there is NOT a standard policy from the 341st TRS, DODMWDVS, or DOD Dog Center limiting duty status or certification of MWDs while on medication. Each MWD must be evaluated as an individual! If an individual MWD "hits" the training aides while on medication the dog can work. If another MWD has decreased performance the effect of the medication must be considered and the treatment must be altered or the MWD's duty and certification changed.



*a. Anticonvulsants.* The most common reason to prescribe controlled medications to MWDs is to control idiopathic epilepsy. Appropriate medications for maintenance of seizure control include phenobarbital and potassium bromide (noncontrolled drug). Inappropriate drugs include Primidone® and oral valium. Consult the DODMWDVS for sources and dosage of potassium bromide if not familiar with its use. Although the few MWDs receiving medication for the control of seizures have seemingly retained the ability to maintain certification standards, there are no controlled studies to ascertain the potential quality or quantity of cognitive decrement. If anticonvulsants impair performance, the greatest risk to force protection is clearly in explosives detection. There is no policy from the 341st TRS, which categorically states that trainers and kennel masters must decertify an explosives detector dog once placed on anticonvulsant medication. However, the DODMWDVS generally recommends that any MWD diagnosed with recurrent seizures be placed in Deployment Category 2.

*b. Steroids and Antihistamines.* The most common reason to prescribe steroids and antihistamines is to control signs of allergic dermatitis. Appropriate medications include ORAL prednisone or dexamethasone, diphenhydramine, chlorpheniramine, trimeprazine (Temaril®), and hydroxyzine. Performance degradation is unlikely with these drugs, but if it does occur it is most likely to occur with anti-inflammatory and immune suppressive doses of steroids. Inappropriate drugs for use in MWDs generally include depo-steroids such as Depomedrol®, and injectable Vetalog®.

## **D-7. Deployability Guidelines**

Four deployability categories (CATs) are defined to help the VCO and kennel master make an assessment of the health and fitness of MWDs for deployment. These assessments are given to the commanding officer of the MWD unit/section, who has final decision authority and control over his/her assigned assets. These assessments have also been extremely valuable to MWD program managers who are required to meet the increasing demands for MWD teams with a fixed and sometimes aged group of MWDs. Deployment factors to consider include duties at home station versus deployment area, the veterinary care available within deployment areas, consideration that the climate and environment in the deployed area may be very different than the MWD's normal work environment, and that physical conditioning must be integral in daily training. The guidelines are:

*a. CAT 1—Unrestricted Deployment.* Medically fit for any contingency or exercise for both CONUS and outside CONUS (OCONUS).

(1) Can tolerate extreme stresses and environments (very hot weather, prolonged physical activity, and so forth.)

(2) No limiting or compromising factors (lack of stamina, and so forth.)

(3) No existing or recurring medical problems that limit performance or will worsen by stress or increased demands. (Medical problems may exist or be under treatment but do not limit performance.)

*b. CAT 2—Restricted Deployment.* Medically fit for regions/missions (CONUS or home TO) with minimal requirement for acclimation to heat or physical stress.

(1) Medically fit for short duration deployments (up to 45 days).

(2) No significantly limiting or compromising factors.

(3) Medical problems may exist which slightly limit performance but are controlled. (Reason for restriction must be reported.)

*c. CAT 3—Temporarily Nondeployable.* Medical condition exists that precludes daily duty performance and is under diagnosis, observation, or treatment. The MWD may be able to work at home station but in a limited capacity.

(1) Reason for nondeployability must be reported.

(2) Estimated Release Date (ERD) from CAT 3 must be reported.

*d. CAT 4—Nondeployable.* Unresolved medical or physical problems exist that frequently or regularly impede daily duty performance and ERD cannot be given. Medical or physical conditions warrant euthanasia/replacement within one year.

(1) Reason for nondeployability must be reported.

(2) Military working dog disposition process should be initiated (elimination/retirement/adoption/euthanasia).

*e. Age Considerations.* It should be noted that some determinations are and will remain subjective; thus there remains the need for prudent judgment by all individuals involved in these assessments. This is particularly true regarding the effect of age on an individual MWD. Old age is not a disease and MWDs are not downgraded just due to age.

*f. Categories as a Management Tool.* The list of MWDs assessed as CAT 4 (nondeployable) serves as a management tool for program managers, kennel masters, and veterinarians in determining programmed replacements. Note that temporarily nondeployable (CAT 3) MWDs must have an ERD to assist commanders and program managers in their planning, and CAT 2 MWDs must have the restrictive reason reported to assist program managers and the DODMWDVS in identifying problems among the deployable MWD population. Although criteria listed for assessment addresses medical conditions, training evaluations can be used to help determine a deployability category. For example a particular MWD may be CAT 2 in that it is restricted in patrol work but is unrestricted in detector work. Likewise, a CAT 3 MWD may have recently decertified but the kennel master expects the MWD to recertify by the ERD.

*g. Deployment Status Updates.* Deployability status is initially determined after the VCO examines the MWDs at the receipt physical or semiannual physical exam and the kennel master determines training and proficiency status. The VCO and kennel master should discuss their findings, then categorize each MWDs status and forward the listing through the kennel master to the Provost Marshal, or chief of security forces. Updates to deployability status lists will be performed at least monthly or as needed as changes occur in an individual MWD's status. Any changes in the deployability status will be annotated in the MWD's record and the Lotus Notes MWD Database.

## D-8. Deployment

Once a MWD is identified for deployment, other concerns include educating the handler how best to take care of the MWD and preventing as many diseases as possible. Local diseases will vary, depending especially on the region and how well the country is developed. Information regarding potential medical capabilities and disease threats within a foreign country can be obtained through the Operations Section of the Armed Forces Medical Intelligence Center (AFMIC). The DODMWDVS, US Army VETCOM or the DOD Veterinary Service Activity may publish definitive guidance for larger-scale or sustained deployment areas, such as Bosnia or Southwest Asia.

*a. Handler Training.* Training of MWD handlers is very important. In addition to appropriate information on diseases present in the region, such things as hot and cold weather inquiries should be discussed. For cold weather, tell the handler to ensure the MWDs have plenty of water to drink when working outside, keep them dry, and get them into some type of protection (house, kennel, building) if the weather becomes bad or if they are required to remain inactive for prolonged periods. For hot weather, they should ensure plenty of water to drink, provide shade, and ensure that they have work/rest cycles.

*b. Vectorborne Disease.* The primary vectorborne disease concerns are rickettsial diseases and HW disease. Prophylaxis against these diseases includes:

- (1) Adequate vector control (most important and most effective).

- (2) Sending flea and tick control products with the MWD for the length of the deployment. Systemic control is recommended using prescription liquid applications according to the manufacturers instructions (Top Spot®). Supplementation with amitraz collars (Preventic®) for ticks or deltamethrin collars (Happy Jack Novation®, Scalibor®) for ticks and sand flies may be appropriate.

### NOTE

The use of nonprescription permethrin sprays and spot-on insecticide or repellents is not authorized for MWDs.

- (3) Dispensing either tetracycline 6.6 mg/kg or doxycycline 6 mg/kg given orally once daily to the MWDs during the deployment. This dosage may also prevent leptospirosis as well as babesiosis.

*c. Medications.* Send sufficient recurrent medications with the MWD for the length of the deployment, to include HW preventive, topical ectoparasiticides and any other medications the MWD is receiving (such as, thyroid supplement, carprofen). Ensure potency-dated items have expiration dates good through the deployment period and advise handler as to proper storage and administration of such medicants (such as, prevent exposure to extreme heat, apply Top Spot® to the skin not the hair).

*d. Vaccinations.* Veterinary support and ability to obtain medications, including vaccines, may be limited in deployment areas. Make sure the MWDs' vaccinations are current, and that they will cover the MWDs' requirements for the return health certificate. Make sure vaccinations will be current through the end of the planned deployment. If the MWD has not been vaccinated within the last six months, revaccination is appropriate prior to planned deployments of greater than three months length.

*e. Semiannual Physical Examination and Evaluation.* Deploying MWDs that have not had a physical examination recorded on a DD Form 1829 and assessment/evaluation recorded on a Standard Form (SF) 600 in the past 90 days, must have a semiannual physical examination and evaluation, including all associated lab-work and radiographs. Dental prophylaxis is also performed, if needed.

#### **D-9. Military Working Dog Handler Training**

By regulation, the local VCO provides training to the MWD handlers. Army Regulation 40-905, paragraph 5-1a(3) states that the frequency will begin "upon initial assignment and continue at least annually thereafter." This regulation recommends more frequent training of handlers but does not make it a requirement. The DODMWDVS therefore recommends training at least quarterly. Topics include when and how to obtain veterinary care (a TSOP is appropriate for this), general animal health, grooming, emergency first aid (gastric dilatation and volvulus syndrome [GDV] known as bloat, heat stroke, snake bite, cold injuries), feeding, and so forth. It is best to schedule these so that seasonal problems are addressed prior to their occurrence. Do not attempt to turn the handlers into animal health technicians, but give them the tools to provide emergency care until they can acquire veterinary care. A MWD Handler Training Handbook was recently published in the Lotus Notes document library and there is a MWD care section in Special Text 20-23-8.

#### **D-10. Working Bite Quarantine**

If a skin puncture occurs with a MWD bite, the person bitten should be referred to the local MTF for treatment. It is expected that the MWD's rabies vaccination will be current. The MWD should be examined as soon as possible after the bite and then released for duty. The MWD is placed on a "working bite quarantine" and should not come in direct physical contact with other MWDs during the quarantine period. Advise the handler to observe the MWD for any abnormal behavior or signs of illness and not to utilize it for bite work until the end of the quarantine. The MWD is then reexamined at the end of 10 days and released from the quarantine. The MWD's record will be annotated regarding the bite and examination findings (SF 600 entry and note on Master Problem List). The bite should also be annotated in the handler's bite report log. Perhaps more importantly, the veterinarian may need to assist the bite victim in receiving care from the MTF. Emergency room (ER) personnel, including physicians, often are unaware of both the canine oral flora (aerobic and anaerobic) introduced into a bite and the crushing nature of the bite by the MWD. As such, ER personnel often suture the wound thus failing to provide drainage, and fail to place the bite victim on a therapeutic course of antibiotics.

## Section III. MILITARY WORKING DOG KENNEL ISSUES

### D-11. Kennel Sanitation Inspections

According to AR 40-905, at a minimum, quarterly kennel sanitary inspections must be performed utilizing DD Form 2342 (Animal Facility Sanitation Checklist). Most of the kennel masters are well aware of their responsibilities and maintain their kennels well. However, some of the kennels are in poor repair or short-staffed and these may require more frequent visits by a VCO or animal care specialist (Military Occupational Specialty 91T). The inspector should be intimately familiar with the kennels they support and these visits are a good way to build rapport with the kennel personnel and allow additional cursory evaluations of the MWDs.

### D-12. Kennel Sanitation

Kennel sanitation is outlined in several of the reference documents identified above. The VCO should become familiar with the applicable regulations for the particular branch of service they support. A good general reference is Code of Federal Regulations Title 9—Chapter 1, Part 3, Subpart A: “Specifications for the Humane Handling, Care, Treatment, and Transportation of Dogs and Cats.” Although this regulation goes into extreme depth on animal care, the appropriate sections are fairly concise. Critical areas for kennel inspections include construction, maintenance, and sanitation.

*a. Construction.* Some of these may be beyond the immediate control of the kennel master or even the unit commander. In some cases, plans for renovation/new construction may be the only correction. The VCO should advise the MWD command on kennel requirements as they are being planned or built. Appropriate kennel plans are available through VETCOM, Animal Medicine Division. Additional guidance is found in AR 190-12, DA Pam 190-12, and AFI 31-202. If there are other questions, consult either VETCOM or the DODMWDVS for assistance.

- (1) Constructed of impervious materials, readily cleaned, and sanitized:
  - Floor must be sealed.
  - Walls must be sealed at least 4' above floor.
- (2) Drainage and waste disposal:
  - Proper drainage (floor slopes toward drain—1/4" per foot).
  - Proper drains (6" drains trapped and connected to waste systems by 6" diameter pipes).
  - Floor drains and gutters located outside of runs.
  - Constructed to prevent cross-contamination.

(3) Proper size run/kennels:

- Kennel size 5'6" wide by 12' long by 6' high.
- Each kennel has a doghouse for the dog (48" long by 36" high).

(4) Temperature and humidity control:

- Must be able to control temperature and humidity of an indoor kennel.
- Must be able to control temperature and humidity of indoor/outdoor kennel.

(5) Site selection:

- Outside built-up area when possible.
- Natural or artificial barriers to reduce noise and visual distractions.

(6) Safety:

- Solid walls between kennels.
- Chain link over top of kennel.
- Chain link 8' tall around training area (NO BARBED WIRE).

(7) Ventilation:

- Kennel building ventilation separate from the kennel support building ventilation.
- Sufficient air exchange per hour, use humidity and odor control as guide.

*b. Maintenance.* Kennel personnel should be able to control most maintenance problems with work orders and/or self-help projects. The following are maintenance checks to ensure the kennel is maintained in good repair. The kennel master ensures the following:

- The facilities are in good repair.
- Chain link fences must contain the MWDs and prevent injuries.
- Kennels and training areas are free of injurious material (rocks, glass, barbed wire, or others).
- The obstacle course is in good repair (smooth, free of splinters).

- Repairs are performed as needed, in a timely manner; work orders are tracked; repairs are supported by the chain of command.
- Insect/rodent control—free of rodent burrows/holes and insect harborages.
- Premises are mowed regularly.
- Vegetation other than lawn grass removed for 10' around kennel, and area sprayed with residual insecticide.
- Mosquito control is in effect.
- Food storage—dry, rodent-proof containers.
- Facilities and premises are free of refuse and garbage.
- One fenestrated plastic pallet/duckboard per run.

**CAUTION**

Toxic substances are not stored in food storage and preparation areas.

c. *Sanitation.* Kennel personnel are able to ensure proper sanitation, may require training by VCO.

- Daily cleaning—remove stools as necessary (at least twice per day).
- Sanitize weekly or if animal is moved.
- Use approved procedures and chemicals (VCO must approve).
- Have an adequate hot water supply.
- Remove MWDs from the kennel prior to cleaning (failure to do so may cause skin and ear problems).
- Squeegee runs to remove excess water.
- Clean and sanitize food/water pans and utensils (scoops, can openers) daily.
- Food preparation area must be neat, orderly, and clean.

- Storage area must be clean and have no signs of insects or rodents.
- Ensure timely and frequent waste/trash removal.

## SECTION IV. PREVENTIVE MEDICINE AND THE VETERINARY MEDICAL RECORD FOR THE MILITARY WORKING DOG

### D-13. Military Working Dog Health Program

The most important part of a successful MWD health program is PVNTMED. Preventive medicine has the largest effect on MWD service life and performance by preventing disease or injury before a problem develops and detecting conditions and disease early in their course, often allowing more successful management of the disease. The ultimate goal is to ensure MWDs are medically fit for mission requirements and to remove unfit animals from the program.

*a. Preventives and Control Measures.* Monthly administration of HW preventives and continuous protection from flea, tick, and HW infestation is essential. Currently the DODMWDVS uses Heartguard® for HW prevention and Frontline® to control fleas and ticks. Products containing milibemycin (Sentinel®) are also acceptable for HW prevention. Amitraz impregnated tick collars are also suitable for tick control.

*b. Monitoring Weight.* Body weight should be measured and recorded monthly in order to monitor body condition and detect important trends in weight loss/gain (deviation from IWR). The kennel master/handler documents food intake, stool consistency, and vomiting.

*c. Semiannual Physical Examination and Health Evaluation.* A complete medical evaluation is done every 6 months. At procurement, each MWD is assigned those months for semiannual physical examinations. A red and yellow sticker is attached to the right side of the record to indicate the months that physical examinations are scheduled. The exact month of these exams may change if early exams are performed due to deployment or other circumstances. Taking a good history and doing a good physical examination is the most important diagnostic procedure that the VCO performs for the MWD. The VCO should ensure the handlers know the importance of their input on such parameters as food and water intake, excretions, lameness, exercise intolerance, cough, and skin abnormalities. The VCO ensures that all findings are appropriately assessed and recorded on the DD Form 1829, and placed in the veterinary medical record, SF 600.

### D-14. Military Working Dog Veterinary Treatment Record

According to AR 40-905, for all MWDs, a veterinary medical record must be initiated by the time an animal is accepted by the US Government and must accompany the MWD on all changes of station and military deployments. Army veterinarians are responsible for information pertaining to medical records of MWD. Only veterinary personnel may make or direct entries in veterinary medical records. Only a



licensed veterinarian may direct entries concerning medical treatment. Veterinary medical records for the MWDs together with the administrative records constitute the permanent record file for each MWD. Effective June 2003, all MWD treatment records should be maintained in the 4-section Air Force (AF) Form 2110A, Veterinary Treatment Record (VTR). The VTR will be constructed by DODMWDVS at time of MWD purchase and forwarded to the responsible VTF when the MWD transfers from the 341st TRS. If a replacement AF Form 2110A is needed, it is requested from the Air Force Publishing Service (see below). According to instructions from the DODMWDVS, the forms listed below are to be placed in the VTR as shown in Table D-1. All documents in the VTR must be identified with the MWD's name and tattoo number, and with the date and the location that care was provided.

### NOTE

To order additional AF Forms 2110A:  
 Register on-line at [www.e-publishing.af.mil](http://www.e-publishing.af.mil)  
     —Click on "On-Line Ordering"  
     —Click on "Apply for User Account"  
     —Fill in your information  
     —You will be notified that your account is being processed  
 Once your account is processed (approximately 24-48 hours)  
     —Go to "short title" search  
     —Search for "AF2110A"  
     —Place your order

*Table D-1. Sequence of Forms for MWD Veterinary Treatment Record*

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|                                                                                       |
|---------------------------------------------------------------------------------------|
| ***FORMS ARE FILED IN PROPER SECTIONS, CHRONOLOGICALLY, WITH NEWEST ON TOP***         |
| ***ALL FORMS AND DOCUMENTS MUST BE CLEARLY LABELED WITH MWD NAME AND TATTOO NUMBER*** |

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**RECORD JACKET:** THE FOUR PART RECORD JACKET IS AF FORM 2110A, HEALTH RECORD OUTPATIENT.

**FRONT COVER:**

LABEL WITH DOG'S NAME, TATTOO, BREED, AND WHELP DATE ON TOP RIGHT CORNER.

AVID® MICROCHIP NUMBER—STICKER, HANDWRITTEN, AND CENTERED.

LABEL WITH "PROCUREMENT PELVIC AND ELBOW RADIOGRAPHS ARE ON PERMANENT FILE AT THE DODMWDVS. INQUIRIES CONCERNING THEM SHOULD BE ADDRESSED: DODMWDVS, 1219 KNIGHT ST, BLDG 7595, LACKLAND AFB, TX 78236-5631."

LABEL WITH "WORKING DOG" IN SPACE PROVIDED FOR MILITARY SERVICE AND GRADE.

**INSIDE BACK COVER:**

LABEL WITH MWD'S NAME, TATTOO, BREED, AND WHELP DATE ON TOP RIGHT CORNER.

SEMIANNUAL IDENTIFICATION—RED AND YELLOW STICKER OVER THE NUMBER CORRESPONDING TO THE MONTH OF THE RED AND YELLOW SEMIANNUAL PHYSICAL EXAM.

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*Table D-1. Sequence of Forms for MWD Veterinary Treatment Record (Continued)*

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PHOTO OF MWD—SIDE VIEW WITH HEAD TURNED TOWARD CAMERA. NAME & TATTOO WRITTEN ON PHOTO.

CERTIFICATION—SUCH AS PATROL, PATROL/DRUG, PATROL/EXPLOSIVES.

**INSIDE RECORD:** (SECTIONS 1—4, LEFT TO RIGHT. FORMS ARE LISTED FROM TOP TO BOTTOM.)

**SECTION 1:**

SF 600, CHRONOLOGICAL RECORD OF MEDICAL CARE.

**SECTION 2:**

DD FORM 2619 (OR EQUIVALENT), MWD MASTER PROBLEM LIST.

DD FORM 1741 (OR EQUIVALENT), MWD IMMUNIZATION RECORD.

DD FORM 1829, RECORD OF MILITARY DOG PHYSICAL EXAMINATION.

WILFORD HALL MEDICAL CENTER (WHMC) FORM 3381 (OR EQUIVALENT), MWD PROCUREMENT PHYSICAL EXAMINATION.

CLINICAL HISTORY FROM PREVIOUS OWNER (IF ANY).

**SECTION 3:**

SF 512 (OR EQUIVALENT), WEIGHT PLOTTING CHART (EACH LARGE BLOCK IS EQUIVALENT TO ONE MONTH; WITH EACH VERTICAL LINE REPRESENTING 3 DAYS AND EACH HORIZONTAL LINE REPRESENTING ONE HALF [ $\frac{1}{2}$ ] OR ONE [1] POUND).

SF 545 (OR EQUIVALENT/LOCAL FORM), LABORATORY REPORT DISPLAY. FILE THE LABORATORY REPORTS IN ORDER BY DATE—NOT BY TYPE OF TEST. SMALLER REPORTS WILL NOT BE ATTACHED TO LARGER REPORTS.

**NOTE**

STANDARD FORM 545 SERIES DO NOT HAVE TO BE FULL BEFORE ANOTHER REPORT IS PLACED ON TOP. PATHOLOGY REPORTS ARE NOT FILED HERE.

SEROLOGY AND INFECTIOUS DISEASE (SEROLOGY) REPORTS (*EHRlichia canis*, *BABESIA canis*, AND SO FORTH) AND FAVN RABIES TITER REPORTS.

**SECTION 4:**

DEPLOYMENT HISTORY FORM

SF 519 OR SF 519-B (OR EQUIVALENTS), RADIOGRAPHIC REPORTS AND RADIOLOGICAL CONSULTATION REQUEST.

SF 516 (OR EQUIVALENT), OPERATION REPORT.

**NOTE**

THIS SECTION WILL ALSO INCLUDE ANY TYPE OF CORRESPONDENCE DEALING WITH ORAL AND DENTAL PROCEDURES, AND VIDEOSCOPIIC PROCEDURES.

OF 517 (OR EQUIVALENT), ANESTHESIA RECORD.

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*Table D-1. Sequence of Forms for MWD Veterinary Treatment Record (Continued)*


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SF 515 (OR EQUIVALENT/LOCAL FORM), TISSUE EXAMINATION AND PATHOLOGY REPORTS ARE INCLUDED HERE.

ELECTRODIAGNOSTIC PROCEDURES—TO INCLUDE: ECG, EEG, AND ALL OTHER NEUROLOGICAL PROCEDURES.

DD FORM 2209, HEALTH CERTIFICATE/DD FORM 2621 (OR EQUIVALENTS), TRILINGUAL HEALTH CERTIFICATE.

MISCELLANEOUS CORRESPONDENCE—WILL INCLUDE ALL CORRESPONDENCE THAT DOES NOT IDENTIFY WITH ANY OF THE AREAS LISTED ABOVE (SUCH AS, REFERRAL MEMORANDUMS, RABIES CERTIFICATES, AND SO FORTH).

**NOTE**

WHEN AN MWD IS TRANSFERRED TO THE DODMWDVS, THE REFERRAL MEMORANDUM SHOULD BE TEMPORARILY PLACED ON THE TOP OF THE SF 600s IN SECTION 1.

**LEGEND:**


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|       |                                            |      |                                         |
|-------|--------------------------------------------|------|-----------------------------------------|
| AF    | AIR FORCE                                  | EEG  | ELECTROENCEPHALOGRAM                    |
| AVID® | AMERICAN VETERINARY IDENTIFICATION DEVICES | FAVN | FLUORESCENT ANTIBODY VIRUS NEUTRALIZING |
| DD    | DEPARTMENT OF DEFENSE                      | OF   | OPTIONAL FORM                           |
| ECG   | ELECTROCARDIOGRAM                          | SF   | STANDARD FORM                           |

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## GLOSSARY

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| <b>AC</b>           | hydrogen cyanide (also called hydrocyanic acid) cyanogens compounds (blood agents) |
| <b>AETC</b>         | Aerospace and Education Training Command                                           |
| <b>AF</b>           | Air Force                                                                          |
| <b>AFB</b>          | Air Force Base                                                                     |
| <b>AFI</b>          | Air Force Instructions                                                             |
| <b>AFJI</b>         | Air Force Joint Instructions                                                       |
| <b>AFMIC</b>        | Armed Forces Medical Intelligence Center                                           |
| <b>AFMAN</b>        | Air Force Manual                                                                   |
| <b>AFR</b>          | Air Force Regulation                                                               |
| <b>AFSFC</b>        | Air Force Security Forces Center                                                   |
| <b>AFTTP(I)</b>     | Air Force Tactics, Techniques, Procedures (Interservice)                           |
| <b>AMEDD</b>        | Army Medical Department                                                            |
| <b>AMEDDC&amp;S</b> | Army Medical Department Center and School                                          |
| <b>AMI</b>          | Army Medical Department Modularity Initiative                                      |
| <b>AML</b>          | area medical laboratory                                                            |
| <b>AO</b>           | area of operations                                                                 |
| <b>APHIS</b>        | Animal and Plant Health Inspection Services                                        |
| <b>APOD</b>         | area port of debarkation                                                           |
| <b>AQI</b>          | Agriculture, Quarantine, and Inspection                                            |
| <b>AR</b>           | Army regulation                                                                    |
| <b>ART</b>          | Army tactical task                                                                 |
| <b>ASB</b>          | area support battalion                                                             |
| <b>ASCC</b>         | Army Service Component Command                                                     |

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|              |                                                                 |
|--------------|-----------------------------------------------------------------|
| <b>ASG</b>   | area support group                                              |
| <b>ASMB</b>  | area support medical battalion                                  |
| <b>ATNAA</b> | Antidote Treatment, Nerve Agent Autoinjector                    |
| <b>attn</b>  | attention                                                       |
| <b>AUTL</b>  | Army Universal Task List                                        |
| <b>AVID®</b> | American Veterinary Identification Devices                      |
| <b>BAL</b>   | British antilewisite                                            |
| <b>BER</b>   | basal energy requirements                                       |
| <b>BOA</b>   | basis of allocation                                             |
| <b>BSB</b>   | brigade support battalion                                       |
| <b>BW</b>    | biological warfare                                              |
| <b>BZ</b>    | 3-quinuclidinyl benzilate QNB; (incapacitating agent)           |
| <b>C2</b>    | command and control                                             |
| <b>CA</b>    | civil affairs/bromobenzyl cyanide (cyanide, riot control agent) |
| <b>CANA</b>  | Convulsant Antidote for Nerve Agent                             |
| <b>CAT</b>   | category                                                        |
| <b>CBRN</b>  | chemical, biological, radiological, and nuclear                 |
| <b>CG</b>    | phosgene (lung-damaging/choking agent)                          |
| <b>CK</b>    | cyanogen chloride (lung-damaging and blood agent)               |
| <b>CMMC</b>  | Corps Materiel Management Center                                |
| <b>CMO</b>   | civil-military operations                                       |
| <b>CN</b>    | chloroacetophenone solution (riot control agent)                |
| <b>CNS</b>   | central nervous system                                          |

## **Glossary-2**

**COA** course(s) of action

**COMMZ** communications zone

**CONUS** continental United States

**COSCOM** corps support command

**CS** o-chlorobenzylidene malononitrile (tear gas)

**CSB** corps support battalion

**CSG** corps support group

**CSS** combat service support

**CW** chemical warfare

**CX** phosgene oxime (a blister agent)

**CZ** combat zone

**DA** Department of the Army

**DD** Department of Defense

**DDD** drug detector dog

**DFAC** dining facility(ies)

**DHS** Department of Homeland Security

**DISCOM** division support command

**DLA** Defense Logistics Agency

**DLAD** Defense Logistics Agency Directive

**DLAM** Defense Logistics Agency Manual

**DLAR** Defense Logistics Agency Regulation

**DMMC** Division Materiel Management Center

**DNBI** disease and nonbattle injury

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**DOD** Department of Defense

**DODD** Department of Defense Directive

**DODMWDC** Department of Defense Military Working Dog Center

**DODMWDVS** Department of Defense Military Working Dog Veterinary Services

**DP** diphosgene (lung-damaging agent)

**DPSCM** Defense Personnel Support Center Manual

**DS** direct support

**DSA** division support area

**DSB** division support battalion

**DSCP** Defense Supply Center Philadelphia

**DSU** direct support units

**DVC** District Veterinary Command

**EAC** echelons above corps

**ECG** electrocardiogram

**EDD** explosive detector dog

**EEG** electroencephalogram

**EMT** emergency medical treatment

**EOD** explosive ordnance disposal

**EPW** enemy prisoner of war

**ER** emergency room

**ERD** estimated release date

**FADL** Food Analysis and Diagnostic Laboratory

**FAVN** fluorescent antibody virus neutralizing

|                |                                                                                             |
|----------------|---------------------------------------------------------------------------------------------|
| <b>FHP</b>     | force health protection                                                                     |
| <b>FID</b>     | foreign internal defense                                                                    |
| <b>FM</b>      | Field Manual (when followed by a number)/titanium tetrachloride                             |
| <b>FMFM</b>    | Fleet Marine Force Manual                                                                   |
| <b>FRBP</b>    | forward ration breakdown point                                                              |
| <b>FS</b>      | sulfur trioxide-chlorosulfonic acid solution                                                |
| <b>FSB</b>     | forward support battalion                                                                   |
| <b>GA</b>      | Tabun (nerve agent)                                                                         |
| <b>GB</b>      | Sarin (nerve agent)                                                                         |
| <b>GD</b>      | Soman (nerve agent)                                                                         |
| <b>GDV</b>     | gastric dilatation and volvulus syndrome (bloat)                                            |
| <b>GF</b>      | cyclosarin (a nerve agent)                                                                  |
| <b>GOA</b>     | government-owned animal                                                                     |
| <b>GS</b>      | general support                                                                             |
| <b>GSA</b>     | General Service Administration                                                              |
| <b>GSU</b>     | general support units                                                                       |
| <b>H</b>       | European Countries' term for sulfur mustard (a blister agent)                               |
| <b>H&amp;S</b> | heat and serve                                                                              |
| <b>HACCP</b>   | hazard analysis critical control point                                                      |
| <b>HC</b>      | a chemical mixture of grained aluminum, zinc oxide, and hexachloroethane (a smoke producer) |
| <b>HD</b>      | distilled mustard (a blister agent) also referred to as sulfur mustard                      |
| <b>HHC</b>     | headquarters and headquarters company                                                       |
| <b>HN</b>      | host nation/Nitrogen Mustard (a blister agent)                                              |



**FM 4-02.18**

**HSPD** Homeland Security Presidential Directive

**HSS** health service support

**HW** heartworm

**ICS** Incident Command System

**IEDK** Individual Equipment Decontamination Kit

**IM** intramuscular

**IV** intravenous(ly)

**IWR** ideal weight range

**JSLIST** Joint Service Lightweight Integrated Suit Technology

**JSMWDC** Joint Services Military Working Dog Committee

**JTF** joint task force

**kcal** kilocalorie

**kcal/day** dog's calorie requirements each day

**kg** kilogram

**L** lewisite (a blister agent)

**LOC** lines of communication

**MACOM** major Army command

**MAJCOM** major command (Air Force)

**MCO** Marine Corps Order

**MCRP** Marine Corps Reference Publication

**MCWP** Marine Corps Warfighting Publication

**MDD** mine detector dog

**MDVM** medical detachment, veterinary medicine

**MDVS** medical detachment, veterinary service

**med** medical

**MEDBDE** medical brigade

**MEDCOM** medical command

**MEDLOG** medical logistics

**MER** maintenance energy requirement

**METT-TC** mission, enemy, terrain and weather, troops and support available, time available, and civil considerations

**mg** milligram

**MIL-STD** military standard

**MILSTRIP** military standard requisitioning and issue procedures

**ml** milliliter

**MMD** materiel management division

**MMS** Marine Mammal Systems

**MMT** materiel management team

**MOA** memorandum of agreement

**MOPP** mission-oriented protective posture

**MOU** memorandum of understanding

**MP** military police

**MRE** meal(s), ready-to-eat

**MSB** main support battalion

**MSR** main supply route

**MTOE** modification table(s) of organization and equipment

**FM 4-02.18**

**MWD** military working dog

**MWR** morale, welfare, and recreation

**NASA** National Aeronautics and Space Administration

**NAVMED** Navy Medical

**NAVSUPINST** Navy Support Instruction

**NAVSUP PUB** Navy Support Publication

**NCO** noncommissioned officer

**NCR** National Capital Region

**NEO** noncombatant evacuation operations

**NIMS** National Incident Management System

**NSN** national stock number

**NWP** Naval Warfighting Publication

**OCONUS** outside continental United States

**OF** Optional Form

**OPCON** operational control

**OPLAN** operations plan

**OPNAVINST** Chief of Naval Operations Instructions

**OR** operating room

**P/D** patrol/drug

**P/EX** patrol/explosive

**PAM** pamphlet

**PCB** polychlorinated biphenyls

**POA** privately-owned animal

**PROFIS** Professional Filler System

**PS** chloropicrin (lung-damaging agents)

**PVNTMED** preventive medicine

**RBP** ration breakdown point

**RSDL** reactive skin decontamination lotion

**RVC** Regional Veterinary Command

**SDAMF** Science Diet Active Maintenance Formula

**SDK** skin decontamination kit

**SECNAVINST** Secretary of the Navy Instruction

**SERPACWA** Skin Exposure Reduction Paste Against Chemical Warfare Agents

**SF** special forces/security forces/Standard Form (when followed by a number)

**SMART-V** special medical augmentation response team—veterinary

**SNAPP** Soman Nerve Agent Pyridostigmine Pretreatment

**SP** supply point

**SPOD** seaport(s) of debarkation

**spp** species

**SRC** Standard Requirement Code

**SVC** service

**TB** Technical Bulletin

**TBMED** Technical Bulletin, Medical

**TDA** table of distribution and allowances

**TG** Technical Guide

**TM** Technical Manual

**FM 4-02.18**

**TO** theater of operations

**TOE** table(s) of organization and equipment

**TPFDL** Time-Phased Force Deployment List

**TRS** training squadron

**TSA** Transportation Security Agency

**TSC** Theater Support Command

**TSCMMC** Theater Support Command Materiel Management Center

**TSOP** tactical standing operating procedures

**2 PAM Cl** Pralidoxime Chloride

**UBL** unit basic load

**UGR** unitized group rations

**UHT** ultra high temperature

**US** United States

**USAF** United States Air Force

**USAID** United States Agency for International Development

**USBP** United States Border Patrol

**USCBP** United States Customs and Border Protection

**USCG** United States Coast Guard

**USCS** United States Customs Service

**USDA** United States Department of Agriculture

**USDHHS** United States Department of Health and Human Services

**USDHS** United States Department of Homeland Security

**USDOI** United States Department of Interior

**USMC** United States Marine Corps

**USN** United States Navy

**USSS** United States Secret Service

**VCO** veterinary corps officer

**VET** veterinary

**VETCOM** Veterinary Command

**VFPT** veterinary food procurement team

**VMAT** veterinary medical assistance team

**VSST** veterinary service support team

**VTF** veterinary treatment facility

**VTR** veterinary treatment record

**VX** O-ethyl methyl phosphonothiolate (V-agent, a nerve agent)

**WHMC** Wilford Hall Medical Center

**WP** white phosphorus

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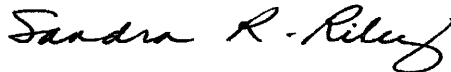
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